

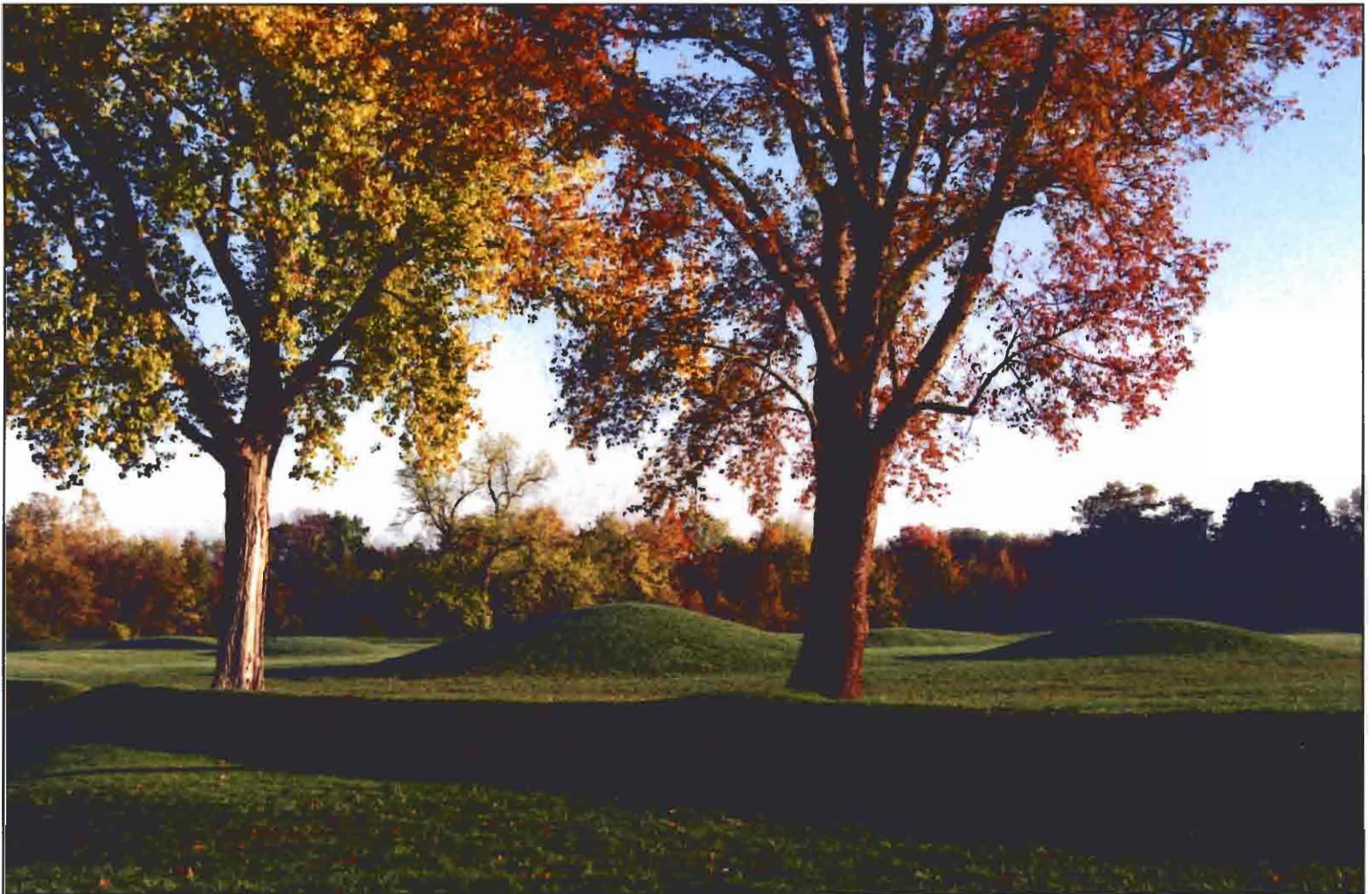
National Park Service
U.S. Department of the Interior

Hopewell Culture National Historical Park



Expeditions into Ohio's Past

Teacher's Guide



An Integrated Curriculum for Grades 3-5

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Hopewell Culture National Historical Park
U.S. Department of the Interior, National Park Service
16062 State Route 104
Chillicothe, Ohio 45601-8694

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A majority of the activities contained within *Expeditions into Ohio's Past* are based on activities contained within the following teaching guides:

Intrigue of the Past: Fundamentals of Archeology, a Teacher's Guide for Fourth through Seventh Grades by Shelley J. Smith, Jeanne M. Moe, Kelley A Letts, and Daniel M. Patterson, U.S. Department of the Interior, Bureau of Land Management, is a publication of Project Archeology's Heritage Education Program. This program is designed to educate teachers and students in different methods targeting the protection of cultural resources.
www.blm.gov/heritage/project_archaeology.htm

Investigating Artifacts: Making Masks, Creating Myths, Exploring Middens Teacher's Guide. Grades K- 6 by Katherine Barnett, Lincoln Bergman, Gigi Dornfest, Linda Lipner, Cordyn Willard. Great Expeditions in Math and Science (GEMS). For more information and free catalog, please contact GEMS at (510) 642- 7771.

Teaching Archaeology: A Sampler for Grades 3- 12. www.saa.org/pubEdu/sampler. Society for American Archaeology, 900 Second Street NE #12, Washington, DC 20002- 3557.

Front Cover: Mound City Group (NPS/Joe Murray)

CHARTING THE COURSE



MICA

Mica was obtained by the Hopewell people from the Blue Ridge Mountains. It can be split into thin sheets having high luster. The Hopewell used this mineral for cutouts, mirrors, and other decorations.



Table of Contents

Section 1: Charting the Course

Acknowledgements.....	9
Superintendent's Letter.....	10
Introduction to Using this Guide.....	11
Suggested Planning Timeline.....	12
Activity Format	14
Planning Your Field Trip.....	15
Program Choices.....	16
- Programs for the Classroom	
- Programs at Hopewell Culture National Historical Park	
Introductory Reading.....	18
- <i>Ohio's Prehistoric Past</i>	
Discussion Questions for <i>Legacy of the Mound Builders</i> Video.....	26



Section 2: Clues to the Past

Sharing Ohio's Prehistory.....	29
Comparing Timelines.....	31
Fun With Words.....	39
Locating Hopewell Culture National Historical Park.....	41
Why is the Past Important? Part One.....	47
Look It Up!.....	49
A Penny For Your Thoughts.....	53
Today & Yesterday.....	55
Comparing Cultures.....	59



Section 3: Tracing the Past

Site Flow Chart.....	65
Peanut Butter & Jelly Archeology.....	69
Excavate a Trash Can.....	73
Playground	79
What's Hidden in the Midden?.....	83
What Ought to Rot?.....	89
Prehistoric Tool Time.....	93
Habitats of the Hopewell.....	95
Suppertime 2,000 Years Ago.....	97
Travel or Trade?.....	101
Pots and Pieces.....	105
Hopewell Effigy Pipes.....	109
Map Quest!.....	111
- To Build a Mound	



Section 4: Remembering the Past

Why is the Past Important? Part Two.....	119
Write of Passage.....	121
Short Stories in Archeology.....	123
Issues in Archeology Conservation.....	127



Section 5: Appendix

Reproducible Worksheets.....	139
Teaching Resources.....	145
Suggested Reading.....	147
Selected Bibliography.....	149
Glossary.....	151
My Hopewell Predictions (student pre- test).....	157
My Hopewell Review (student post- test).....	158
Teacher Evaluation Form.....	159
Student Evaluation Form.....	160



Acknowledgements



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Archeologists, park service employees, and educators have reviewed drafts of this guide and provided many suggestions. Numerous volunteers have provided invaluable time and effort in assisting with various aspects of compiling this guide. Many thanks to all who were involved.

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Superintendent's Letter



Dear Educator:

America, through its National Park System, preserves many of the places that are special to the Nation. The rich diversity of cultural and natural resources that characterize our great national heritage is found in our national parks. As well as preserving these significant sites, the National Park Service invites the public to visit and learn about our heritage. The National Park System has been described as the “world’s greatest outdoor university.” All parks are places to learn and Hopewell Culture National Historical Park is no exception.

Education of the public, and of children in particular, is an important mission of the park. This curriculum guide has been prepared to help ensure that the opportunities provided by the park for learning about Ohio’s prehistoric past are realized. This guide strengthens and expands upon the education programs offered by the park. Use of the curriculum guide before and after on- site visits to the park will help make the student’s experience more complete and meaningful.

This curriculum guide is the result of the outstanding contributions of educators, volunteers, and National Park Service employees. A number of people have freely given of their time and abilities to make it available. In addition, it would not have been possible without the generous support of the National Park Foundation. As educators, students, and the park staff use the curriculum, it is important that the experiences are shared and the curriculum refined to better serve the needs of students and educators alike.

The stories of the Hopewell culture, of archeology, and of national parks are exciting and meaningful to our lives today. We seek to share them with you through this curriculum guide and other park programs.

Sincerely,

Dean K. Alexander
Superintendent

Introduction to Using this Guide



Welcome to “Expeditions into Ohio’s Past: An Integrated Curriculum for Grades 3- 5”

Prehistoric earthworks were once abundant on the landscape throughout southern Ohio. Yet comparatively few of these sites exist today. Sites administered by Hopewell Culture National Historical Park (NHP) are some of our few links to the culture that lived in this area over 2,000 years ago. *Expeditions into Ohio’s Past: An Integrated Curriculum for Grades 3- 5* will provide you and your students with the tools you need to understand and appreciate Ohio’s prehistoric past. Teachers are encouraged to schedule at least one in- classroom visit by a park ranger and at least one visit to the park for their class in addition to completing activities in this guide.

Organization of the Guide

This book is organized into five sections.

Section 1: Charting the Course

This section introduces educators to the resources available at Hopewell Culture NHP as well as the goals of this curriculum guide. Within this section educators and students begin their exciting adventure into the past, learning and discovering about the people of the Hopewell culture. Reading *Ohio’s Prehistoric Past* is the first step for educators and students in their “Expedition.” This section also provides necessary information for planning trips to the park and/or scheduling a park ranger to visit your classroom.

Section 2: Clues to the Past

In order to appreciate Ohio’s prehistory one must first be aware of the material culture left behind in the archeological record. Studying the past gives a rare chance to examine our place in time. Archeology is the only way we have to study cultures like the Hopewell, who left no written records. Activities in this section teach the fundamental concepts necessary for understanding the Hopewell culture through archeology: the importance of the past, culture, observation, inference, context, and scientific inquiry. Teaching this section as a unit prior to the other lessons will prepare students to assimilate more easily information from the rest of the guide. This section is designed to be taught prior to visiting the park.

Section 3: Tracing the Past

This section is about the processes of archeology: finding, excavating, analyzing, and interpreting prehistoric archeological data. The lessons in this section build on the basic concepts presented in Section 1 and 2. If taught as a whole, this section will give students a broad understanding of the archeological process, but the lessons are designed to be taught individually as well.

Section 4: Remembering the Past

This section presents lessons about how sites and artifacts of the Hopewell culture should be preserved and conserved. Students are given an opportunity to examine their own beliefs and

values about the past through these lessons. Students need background knowledge to thoughtfully form values. Therefore, lessons in this section should be taught only after students have obtained a broad understanding of archeology and prehistory. Students should complete activities from this section after a visit to our park as well as completion of activities from Sections 2 and 3.

Section 5: Appendices

These references are primarily for teacher use. You will find listings of additional prehistoric archeological sites and resources. A review test is contained in this section to be used as a final evaluation of the students' comprehension of activities completed throughout the guide. Your feedback and comments on this curriculum guide are vital to its success and future. An evaluation form is included in this section for the teacher and student to fill out. Please let us know if the curriculum serves your needs and benefits your students.



Suggested Planning Timeline

As early as possible in the school year:

- ◆ Contact Hopewell Culture National Historical Park to reserve a date for your fieldtrip. The most popular times to visit the park are in September- October and April- early June. Call early to reserve space during these busy times. If fieldtrips are not available for your school, please call and schedule a visit to your classroom by a park ranger.
- ◆ Customize the curriculum for your class. Select the activities you will complete before, during and after a visit to Hopewell Culture NHP. Develop plans that work the curriculum into your classroom and homework schedules.
- ◆ Use the following flow chart to assist in planning your "Expedition."

Our recommendations for your "Expedition"

View *Legacy of the Mound Builders* Video

Assign students to read *Ohio's Prehistoric Past*

Clues to the Past required activities:

- *Sharing Ohio's Prehistory*
- *Comparative Timelines*
- *A Play on Words*
- *Why is the Past Important? Part One*

Visit Hopewell Culture NHP. If fieldtrips are not available for your school, schedule a park ranger to visit your classroom.

Tracing the Past required activities:

Site Flow Chart activity must be completed before beginning any of the mock excavation activities contained within this section.

Choose at least one of the mock excavation activities

- *Peanut Butter and Jelly Archeology*
- *Excavate a Trash Can*
- *Playground Archeology*
- *What's Hidden in the Midden?*

Choose at least one of the activities related to Hopewell daily life

- *Prehistoric Tool Time*
- *Habitats of the Hopewell*
- *Supper time 2,000 Years Ago*
- *Travel or Trade?*
- *Map Quest!*

Choose at least one of the craft activities

- *Pots and Pieces*
- *Hopewell Effigy Pipes*
- *To Build a Mound*

Remembering the Past recommended activities:

- *Why is the Past Important? Part Two*
- *Issues in Archeology Conservation*

Post-Test and Evaluations

Complete *My Hopewell Review* as a final assessment.

Fill out Student and Teacher evaluations and send them to Hopewell Culture National Historical Park.

Activity Format

➤ SUMMARY

Contains a brief description of the concepts, skills, and effective dimensions of the activity.

OBJECTIVES

Outlines the qualities or skills students should possess after participating in the activity. These learning objectives contain specific, measurable outcomes which allow easy evaluation.

BACKGROUND

Relevant information is presented about activity concepts or teaching strategies. The background describes the relevance of the activity to students and presents the rationale for the activity. Prepares everyone for the activity and introduces concepts to be addressed.

SUGGESTED PROCEDURE

Provides step- by- step directions to address concepts.

ASSESSMENT

Brings closure to the lesson and includes questions and activities to assess student learning.

EXTENSION

Provides additional activities for continued investigation into concepts addressed in the activity. Extensions can also be used for further assessment.



Icon indicates the activities placement within the conceptual framework of the guide

- ◆ **Subject:**
Defines disciplines to which the activity applies
- ◆ **Duration:**
Suggests approximate time needed for completion of the activity
- ◆ **Setting:**
Suggests the proper location for the activity and whether the activity should take place before or after visiting Hopewell Culture NHP
- ◆ **Materials:**
Supplies needed to conduct the activity

Planning Your Fieldtrip



To make your visit as productive as possible here are some guidelines:

- ◆ Before bringing your class to Hopewell Culture NHP, we suggest that you visit the area personally to become acquainted with our resources and facilities. You may also schedule a park ranger to visit your classroom and prepare your students for their visit to our park. A visit from a park ranger should take place at least two weeks prior of the actual fieldtrip. All ranger classroom visits should be scheduled at least two months in advance.
- ◆ Plan to spend about 2 ½ to 3 hours at Hopewell Culture NHP. At least one hour for every 30- 40 students will be needed for a tour of the park and additional time for stops at the museum and bookstore.

Fees: Fees are waived for all educational groups.

Arrival: Arrive at least 10 minutes before your scheduled start time. In order to prevent program delays and cancellations, your group must be at the park on time. Upon arrival, you must first check in with a park ranger at the visitor center (before unloading students) to confirm itinerary and to assure all groups are informed of any last minute changes.

Traffic Safety/ Bus Parking: After the bus pulls up and unloads at the visitor center, instruct the bus driver to pull around the parking loop and park the bus on the turf blocks in front of the small mound, off of the driveway. If your group is participating in an outdoor tour the park ranger will need your cooperation in guiding the group safely throughout the mound area and on the river trail.

Dress: A majority of our activities are conducted outside. All programs will continue as scheduled, *weather permitting*. Components of each program involve standing and walking outside. Students should dress comfortably and take into account variable weather patterns. Please ask students to dress in comfortable layers.

Auditorium/Bookstore/Museum Areas: Our visitor center is designed to be accessible to all visitors. Teachers and chaperones are expected to control students at all times so that injury to persons and/or property may be prevented. Teachers receive a 15% discount in our bookstore but must have proper identification. Food and drink are not permitted inside the museum. Flash photography is permitted.

Picnic Area/Restrooms: Restroom facilities and a water fountain are located inside the visitor center. A picnic area is available for your class and holds approximately 40 students. The picnic area is used on a first - come, first - served basis unless reserved at the time of group reservation. Yoctangee City Park in Chillicothe has three covered picnic shelters which are available by reservation at (740) 772- 5626. Camp Sherman Memorial Park has another covered picnic shelter located 2 miles south of Hopewell Culture NHP on State Route 104.

Please call the park at (740) 774- 1126 prior to your visit for specific directions, or in the event of changes regarding your group's reservations.

We look forward to your visit!

Program Choices

Programs in the Classroom



All of the following programs are presented by a park ranger in your classroom at no cost to you. All programs should be scheduled at least **two months** in advance. November through March are excellent months to schedule classroom visits.

These programs include all of the necessary supplies. Upon teacher's request, the park can present programs on a variety of topics within archeology, history, or natural history, in addition to those listed below. Due to the nature of these activities, the teacher will need to be present during the program.

- ◆ ***Prehistoric Tool Time:*** (15- 20 minutes)
A reproduction of a prehistoric tool kit. Students determine how prehistoric tools were used and what their modern counterparts are in today's tool kits. Topics covered include location of raw materials, manufacturing techniques, and tool use.

- ◆ ***Travel or Trade?:*** (35- 45 minutes) Utilizing a floor-sized map (9' x 12') of North America and exotic materials of the Hopewell, students gain valuable geography skills. After learning about the Hopewell trade network, students can play mapping games on the canvas.



- ◆ ***Habitats of the Hopewell/Supper time 2,000 Years Ago:*** (45- 60 minutes)
Students will compare three habitats in the region where those of the Hopewell lived. The students will then brainstorm how those people met their needs with the resources available to them. This is a fun and interactive way for the students to explore the year round diet of the Hopewell.
- ◆ ***Map Quest:*** (30 - 45 minutes)
By piecing together puzzles of reproduction 1848 Squier and Davis maps, students will learn about the geography of Ross County, as well as all five park units of Hopewell Culture NHP.
- ◆ ***What's Hidden in the Midden?:*** (60 minutes) Working in teams, students learn the techniques for sifting, removing, keeping track of, analyzing, and classifying the contents of a prehistoric midden.

Program Choices

Programs at Hopewell Culture NHP



All programs should be scheduled at least two months prior to your visit. Keep in mind that April, May, and October are very busy months at the park, so make reservations well in advance. You may conduct your own program without a ranger, but please notify the park prior to your visit.

- ◆ **Guided Mound Tour:** (45 minutes) A guided tour of the Mound City earthwork complex will explain the Hopewell way of life as well as cultural and natural resources stewardship.
- ◆ **Legacy of the Mound Builders:** A 17- minute introductory film tells the story of the Hopewell culture which built geometric earthworks and burial mounds 2,000 years ago. This film is appropriate for third grade and up.
- ◆ **Earthworks: Virtual Explorations of the Ancient Ohio Valley:** This touch- screen computer program provides images and interpretations of the ancient Ohio Valley.
- ◆ **Museum:** A collection of 2,000 year old artifacts that were excavated from the mound area are on display. Items vary from pipes and shark teeth to mica and obsidian.

ACTIVITIES

- ◆ **Hopewell Tool Time:** (15- 20 minutes) A reproduction of a prehistoric tool kit. Students figure out how prehistoric tools were used and what their modern counterparts are in today's tool kits. Topics covered include location of raw materials, manufacturing techniques, and tool use.
- ◆ **Travel or Trade?:** (35- 45 minutes) An interpretive activity utilizing a floor- sized map (9' x 12') of North America and raw materials used by the Hopewell. Using group learning skills, students place raw materials on the map where items were obtained during traveling and trading. After learning about the Hopewell trade network, students can play mapping games on the canvas.

- ◆ **Outdoor Games and Demonstrations:** (30- 45 minutes) Your students can experience first- hand the skill required to throw spears with the use of the atlatl. *Double Ball*, a Native American game of tossing a leather pouch and catching with sticks, is a great challenge of hand- eye coordination.



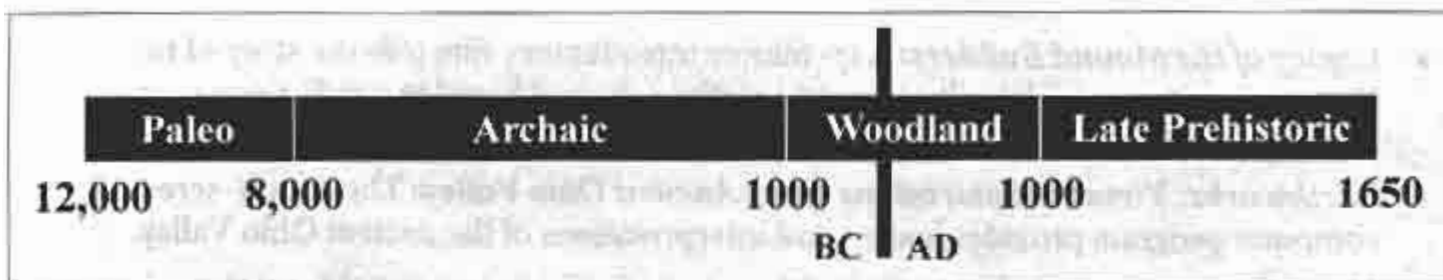
- ◆ **What's Hidden in the Midden?:** (60 minutes) Working in teams, students learn the techniques for sifting, removing, keeping track of, analyzing, and classifying the contents of a prehistoric midden.

Ohio's Prehistoric Past:

An Introductory Reading for Teachers and Students



For more than 14,000 years humans have lived in the region between Lake Erie and the Ohio River, now known as Ohio. Archeologists studying the Eastern Woodlands have divided these 14,000 or so years into four major time periods: Paleo-Indian (12,000- 8,000 BC), Archaic (9,000 - 1,000 BC), Woodland (1,000 BC- AD 1000) and Late Prehistoric (AD 1000 - 1650). While these time periods serve only as basic guides to what happened in the past, each period is uniquely characterized by changes in day to day life.



The Paleo- Indian Period (12,000- 8,000 BC)

The earliest known people in Ohio lived during the Paleo- Indian time period. They lived in North America during the end of the last Ice Age, when most of Ohio was covered in large glaciers and the climate was much colder. People lived in small mobile groups, following the migrating herds of Ice Age animals such as mastodon, giant sloth, giant beaver, bison, musk ox, caribou, wild horse, and elk. Many of these animal remains have been found in Ohio, such as the mastodon accidentally found in 1989 at the Burning Tree Golf Course near Newark, Ohio. These early hunters utilized spears with stone points; the points were called Clovis points. Although this time period is most often associated with large game hunting, the hunting of smaller game and gathering of plants provided the bulk of the Paleo- Indian diet.

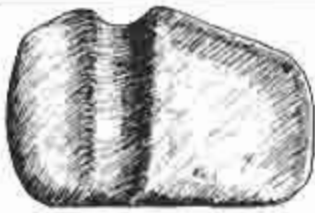


Clovis point

The large Ice Age animals vanished from Ohio by 8,000 BC as a result of a changing climate and perhaps over- hunting. Groups of Paleo- Indians that remained in Ohio were directly affected by the changing climate and environment. During the next 8,000 years some recognizable cultural changes took place.

The Archaic Period (8,000- 1,000 BC)

Archeological investigations of many Archaic camp sites throughout Ohio provide clues to daily life. During this time period the modern climate of Ohio became established. The combination of forests, prairies and rivers provided an abundant supply of food. People living during the end of Archaic period began gathering wild plants such as sump weed and



Archaic stone axe

goosefoot and saving the seeds to plant later. This early form of plant domestication produced bigger seeds and thinner seed husks making harvest more productive.

The use of the atlatl assisted hunters with throwing spears. Atlatl is the name given to a rod of wood with a hook at one end to leverage the back end of a spear. This

innovative tool provided the accuracy and force needed to bring down larger game from a safe distance. Archaic hunters added stone weights to the atlatl to increase the efficiency of the tool.



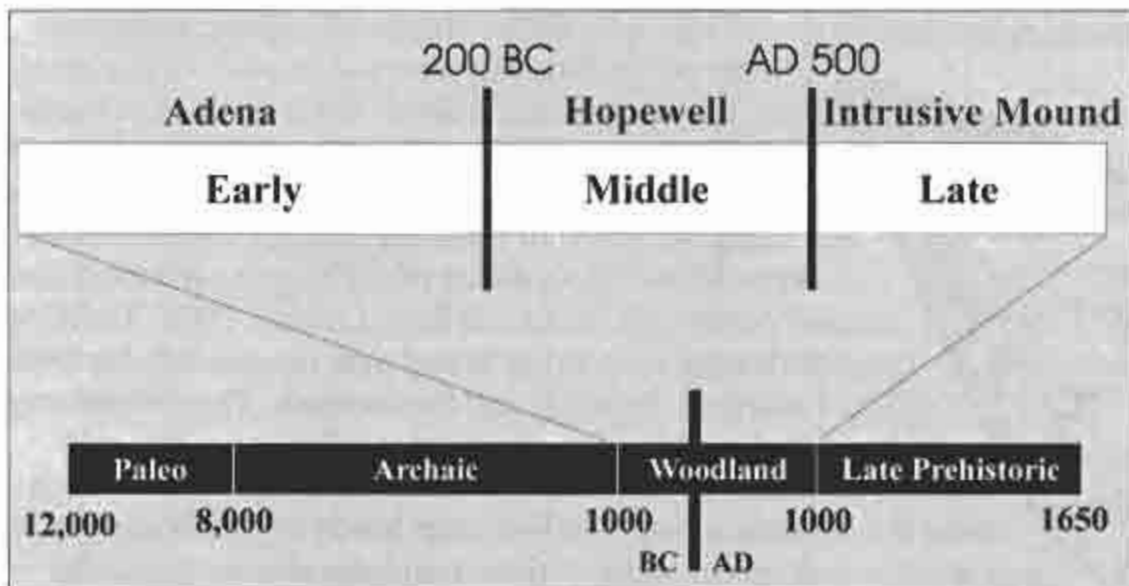
Archaic point

By 2,000-1,000 BC Archaic ceremonial life was changing. Many human burials exhibit signs of burial ceremonialism with special grave offerings. It is in the Middle to Late Archaic period that tending to the dead began to take on a very important role for the living.

The end of the Archaic period is also marked by the evolution of new technology responsible for baskets and clay pots. Archaic pots were big and crude with little to no decoration. They lasted much longer than bark, skin or gourd containers. In addition, the appearance of clay pots in the archeological record is an indication that people were beginning to linger in one place for more extended periods.

The Woodland Period in the Ohio Valley (1,000 BC - AD 1000)

Earthworks, including mounds, were built fairly late in the timeline of human prehistory of what is now Ohio. During the Woodland Period Native Americans built thousands of earthworks in the Ohio Valley. While the mounds they constructed were often used for burials, it is also believed that the earthwork sites represented places of ceremonial gathering for the community. A handful of earthworks can still be seen today. The Woodland Period is subdivided into Early, Middle, and Late periods.



Early Woodland Period: about 1000 BC to AD 100

In a matter of 500 years (around 450 BC), growing domesticated plants, cooking in pottery vessels, and burial ceremonialism culminated in some parts of Ohio in what archaeologists refer to as the Adena culture. During this time American Indian groups built immense burial mounds up to 63 feet high. They also created sacred space by piling up dirt in low earthen embankments in the shape of circles.

Members of the Adena culture lived in a geographic region stretching from southeastern Indiana to southwestern Pennsylvania and from central Ohio to central Kentucky and West Virginia. The natural environment played an important role in the lives of the Adena people, who made their homes along the many waterways that empty into the Ohio River. The rivers and streams were important for transporting people and material goods, and for exchanging information.



Adena point



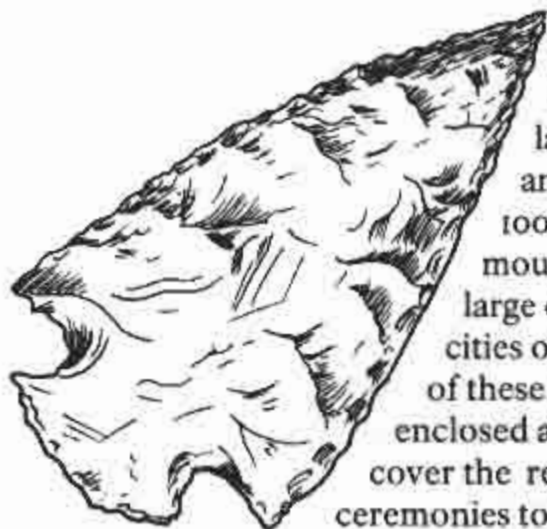
goosefoot

The Adena way of life was based on hunting and gathering, but the Adena also grew some plants. Some of the native plants that were grown in their gardens included *goosefoot*, *knotweed*, *sunflower*, *may grass* and *squash*. The Adena produced engraved stone tablets and stone pipes for smoking tobacco. They obtained materials from distant regions as well, such as *copper*, which was used to make jewelry and other objects.

Adena mounds were usually *conical* in shape and often, but not always, contained burials. Before creating a mound, the Adena would prepare a site by clearing away trees and plants so that they could cover the area with sand or clay. They would then construct a ceremonial building, or dig a rectangular pit and line the sides of the pit with logs. These buildings and log lined tombs were not the homes of the Adena. They were places for performing burial rituals. Before building a mound, structures were taken down or burned.

Middle Woodland Period: about 200 BC to AD 500

Out of local Adena populations emerged the peoples of the Hopewell culture, during the middle of the Woodland period (2,200 to 1,500 years ago), the Hopewell continued the traditions of burial ceremonialism and mound building. But they also built large earthen embankments shaped like circles, squares, and octagons. Some of these earthworks covered more than 100 acres. More than a dozen of the largest earthworks and mound centers are located in Ross County, Ohio. Additional large earthwork centers are found near the present day Ohio cities of Marietta, Newark, and Portsmouth. The embankments of these Hopewell earthworks were as tall as 10- 12 feet and enclosed as many as forty mounds each. In most cases, mounds cover the remains of wooden buildings inside of which important ceremonies took place. Many of these buildings also served as the resting place for the remains of ancestors.



Hopewell point

Hopewell earthworks were constructed for a variety of uses and were located near the center of Hopewell communities. They were special places where families came to bury their dead and make offerings of elaborate objects crafted from materials such as mica, copper, and obsidian brought from many points across North America. While death ceremonies were events for mourning, there were also occasions for feasts and celebration.



copper bird effigy

The variety of materials from which artifacts were made indicate the Hopewell maintained an extensive network that brought raw

materials from hundreds of miles away. Using rivers and trails for transportation, copper from the southern shore of Lake Superior, silver from east central Canada, obsidian from what is now Yellowstone National Park in western Wyoming, mica from the Blue Ridge Mountains of North Carolina and Tennessee, and shells from the Gulf of Mexico, were brought into southern Ohio. These raw materi-



toad pipe

als were fashioned into the shapes of birds, mammals, reptiles, humans, and dozens of other forms.

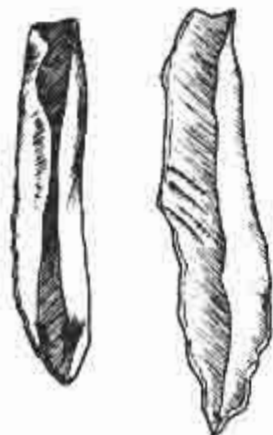
Based on the large quantities of objects buried with the dead and the immense size of the earthworks and mounds, we know that Hopewell earthwork centers must be the result of cooperative construction projects. In many cultures around the world, such large scale public works projects were overseen and controlled by a class of elite rulers, many of whom passed their status to their children. In Hopewell society, however, little evidence of a ruling class has been found.

When not attending group gatherings at earthwork centers, the Hopewell lived a life of hunting, gathering, and gardening. Their settlements were scattered across the landscape of southern Ohio and each consisted of just a few homes. Nearby garden plots were sown each spring with seed-producing plants such as goosefoot, sunflower, knotweed, and may grass. From studying their midden, what archeologists call trash piles, we have learned that these people relied on a variety of starchy and oily seed-bearing plants and nut trees. Bountiful garden harvests helped the Hopewell survive the winter and move less often.



sunflower

The Hopewell people did not use the bow and arrow. The projectile points they used were darts, spears and knives, sometimes in conjunction with the atlatl. A common stone artifact found at Hopewell sites is the bladelet. Some obsidian bladelets of the Hopewell are sharper than modern surgical steel.



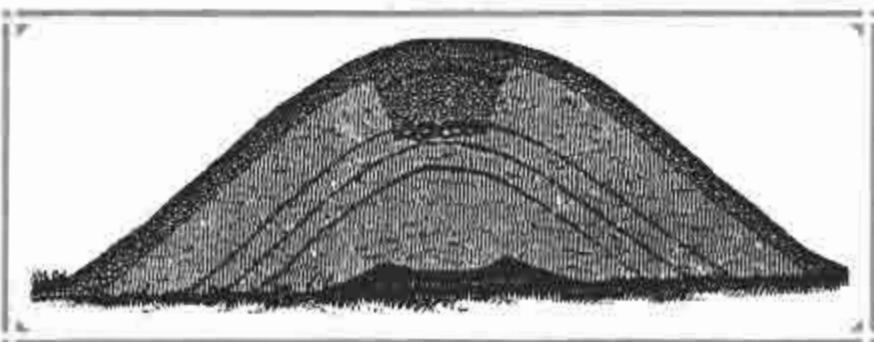
bladelet

By A.D. 400 Hopewell communities were using their earthwork centers less and less, and the use of exotic raw materials in ceremonies was

declining. While descendants of the Ohio Hopewell lived on, focusing even more on growing food in large garden plots, their cultural priorities changed and the ceremonial center of their ancestors were slowly overtaken by forest.

Late Woodland Period: about AD 500 to 1000

The Intrusive Mound culture lived during the Late Woodland period between the decline of the Hopewell culture and the rise of the Fort Ancient culture in the Scioto River Valley. This culture is defined by how they buried their dead, and the stone, bone, and horn tools they manufactured. In 1846, Squier and Davis discovered un-cremated burials in four mounds at Mound City.



Mound 2 at Mound City, as drawn by Squier and Davis in *Ancient Monuments of the Mississippi Valley*, illustrating the intrusive burial at the top of the mound.

Based on information recovered from Mound City Group and two other sites near Portsmouth, Ohio this cultural group was identified and named for the manner in which it buried its dead. It is possible that the Intrusive Mound culture built their own mounds, however, little archeological evidence has been discovered.

Research indicates this Late Woodland culture lived in small groups, was highly mobile, and began the use of bows and arrows to hunt game. Around AD 1000 the Ohio Valley saw the introduction of the Fort Ancient culture and the end of the Intrusive Mound culture. The passing of the Intrusive Mound culture marks the end of the Late Woodland period and begins the Late Prehistoric period.

Late Prehistoric Period: Fort Ancient Culture (AD 1000 to 1650)

The beginning of corn (maize) agriculture is one of the last major changes to have taken place in the Ohio region prior to the arrival of Europeans. Corn was initially brought to the Middle Ohio Valley from Mexico via the southwestern United States perhaps during the early portions of the Woodland period. However, corn was not used in significant quantities until about AD 1000, during the Late Prehistoric period, when people of the Fort Ancient culture grew large fields of it.

Many Fort Ancient people lived in large villages surrounded by tall fences. Some of these villages had up to 250 people living in them. Along with growing corn and beans, people also hunted deer and other animals using the bow and arrow. The bow and arrow came into use in Ohio around AD 800 about 200 years before the Fort Ancient culture. Fishing and collecting clams from the rivers was also very important during this time period.

Like earlier cultures, some Fort Ancient communities built mounds. Fort Ancient mounds were usually much smaller than Adena and Hopewell mounds and were often flattop mounds,

but were used for burying the dead. The Fort Ancient also built effigy mounds, or mounds shaped like animals. Some archeologists believe the Serpent Mound in southern Ohio was built by the Fort Ancient.

When Europeans arrived in the Ohio Valley sometime around 1650 Ohio had already been emptied of its native residents. Some died from the spread of Old World diseases, others moved out of the Ohio area as a result of wars with the Iroquois. European trade goods have been found at a number of late Fort Ancient villages. When Chillicothe was established in the late 1700's, the Shawnee lived in many parts of southern Ohio, but this area is not their original home. What happened to the descendents of the Fort Ancient is still one of Ohio's great historical mysteries.



Fort Ancient point

How Do We Know What We Know? The Study of Archeology



Archeology is a sub- discipline, or a part of *anthropology*, the study of humans. Other fields of anthropology include *physical anthropology* (which centers on human biology and evolution), *cultural anthropology* (which studies human societies today), and *linguistics* (which focuses on human languages).

Archeology is defined as the scientific study of the life and culture of past people through the excavation and examination of their settlements, relics, and artifacts. An *archeologist* is a scientist who practices this field of study. When most people think of archeology they think of an adventurous explorer like the fictional Indiana Jones who braves great danger to grab a precious object. This is far from the truth. Archeology provides a link to the past and a means to study the people who came before us. There is a natural human curiosity about the past. As humans, we want to know more about those who came before; we want to understand them as people. The National Park Service is actively engaged in archeological studies. Most units of the National Park Service, including Hopewell Culture National Historical Park, contain prehistoric and/or historic archeological remains.

Archeological sites are the physical remains of the past that can be studied by archeologists to answer questions about history and prehistory. Archeological sites may be building remains, trash heaps, habitation sites, or ceremonial sites. These physical remains are often buried by natural processes, such as flooding, or by subsequent human activity, and must be studied carefully and systematically through excavation and other techniques.

Archeological sites are especially important to the preservation and understanding of our nation's heritage because they are the main source of knowledge about the prehistoric past. Historic archeological sites can provide information on aspects of history that were never written down, even though they occurred at a time when written records were kept.

All archeological sites are fragile and irreplaceable; they cannot be rebuilt or remade. Through systematic excavation archeologists can unearth clues to a culture's past.

Even the archeological excavation is a destructive process, so archeologists are very careful to excavate only what they need to answer a question. Archeologists frequently concentrate their work on sites that may soon be lost, such as highway or building construction sites. This way, archeologists can rescue as much information as possible from these endangered sites before their complete destruction. These clues usually come in the form of artifacts and features. An *artifact* is any object made or changed by human beings, whether it is an arrowhead or piece of pottery. A *feature* is any archeological remain that cannot easily be transported whole for study in a lab. Examples of features include postholes, foundations, hearths, and trash pits. When artifacts and features are discovered, their location, or *provenience*, is carefully documented and recorded. Later, after analyzing all the field data, the context of the artifacts and features provide the archeologist with a glimpse into the story of the peoples who came before.



Excavation is not the only tool the archeologist uses. Archeologists rely on ethnographic studies, or studies of more contemporary peoples and their cultural changes through time. The studies are usually conducted by cultural anthropologists. Archeologists also rely heavily on old-fashioned research through historical records. New technology called *geophysical survey* allows archeologists to detect archeological features below ground without digging. They also study plants in the field of ethno-botany, and astronomy in the field of archaeo-astronomy. Archeologists are not only excavators: they are also observers, writers, and analysts.

Preserving the Past

The National Park Service administers 388 units, many of which have prehistoric and historic archeological remains. These include prehistoric sites such as Hopewell Culture NHP, historic sites such as Jamestown, and presidential homes such as Abraham Lincoln's birthplace. Hopewell Culture NHP currently preserves and protects five sites constructed by the Hopewell culture in Ross County, Ohio (shown on map below): Mound City Group, Hopeton Earthworks, Hopewell Mound Group, High Bank Works, and Seip Earthworks.

As early as 1906, the Antiquities Act provided protection for the antiquities of the United States. In 1979, the Archeological Resources Protection Act was signed into law, stating in part:

On lands administered by the National Park Service, it is unlawful to excavate, remove, disturb, deface, or destroy any historic or prehistoric building, structure, ruin, site or in place exhibit, artifact or object, or to collect, appropriate, excavate, damage, disturb or destroy artifacts, pictographs, petroglyphs, objects of antiquity, fossils or scientific specimens.

In 1990, the United States Congress signed the Native American Graves Protection and Repatriation Act (NAGPRA) into law. In response to this law, the National Park Service has completed summaries and lists of Native American human remains and ceremonial and cultural items in its collections and notified the associated tribe or groups. Native American human remains and cultural items can be repatriated to the culturally affiliated tribe or organization on request. In addition, the National Park Service is consulting with the associated tribes regarding planned excavations and accidental discoveries. This cooperation has helped to give archeologists an extremely important new source of information, the native peoples themselves.

Although several activities in this guide provide some of the basic understanding of archeological excavation, collecting artifacts from the surface or digging on your own is not a constructive way to participate in archeology. Unauthorized collecting or looting of artifacts is illegal on Federal land and on private land without permission. More importantly, excavating without the proper training and professional support destroys vital archeological information about the provenience and context in which artifacts and features are found.

Discussion Questions for *Legacy of the Mound Builders*



The questions listed below were created to accompany the viewing of the park video, *Legacy of the Mound Builders*. The questions can be used by individuals or in group settings. Pass out copies of the questions to the students prior to the viewing of the video. These questions will help guide your students through the video by giving them key concepts to look for.

1. Why build mounds?
2. What happened to the Hopewell culture?
3. Name some of the tools the Hopewell used to help construct the mounds.
4. List some of the many shapes and designs used to construct earthworks.
5. What are effigy mounds?
6. What percentage of mounds has been destroyed in the United States?
7. Is the Hopewell culture the only mound building culture?
8. Do we have any effigy mounds in Ohio?
9. What else was going on in the world when the Hopewell were building mounds?
10. Why is Ohio a good place to build mounds?
11. What types of food did the Hopewell eat?
12. How long have people been in Ohio?
13. Did the Hopewell have a written language?
14. What river flows along Mound City?
15. How did the Hopewell obtain their food?
16. Is Ohio the only state that had mounds?
17. Did the Hopewell eat corn?
18. What other cultures built mounds?
19. What do the mounds of Mound City contain?
20. Do all mounds contain burials?
21. Do all mounds contain artifacts?
22. What would the environment or habitat have been like 2,000 years ago in what is now Ohio?
23. Did the Hopewell have free time? What does this tell us about the Hopewell culture?
24. Name some of the items the Hopewell were obtaining to make their artifacts?
25. Why were many of the earthwork sites constructed along river and streams?
26. Why is it important to learn about the Hopewell culture?
27. How do we know what we know about the Hopewell culture?
28. Why is Mound City part of the National Park Service?
29. How do archeologists help us learn more about the Hopewell culture?
30. Why do you think the Hopewell constructed earthen walls around many of their earthworks?



Bonus: Why did the movie say the timeline becomes less clear or comes to a grinding halt in the 1650's?

Bonus: How many mounds once dotted Eastern North America?

Bonus: How do we know that it took about 3 hours a day for the Hopewell to get the amount of food that they needed to survive?

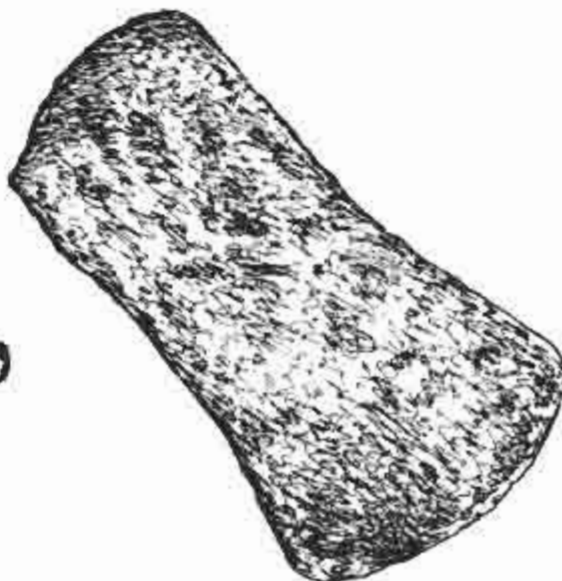
CLUES TO THE PAST



COPPER

Copper was obtained from the Lake Superior region to make headdresses, ear spools, effigies, and other ceremonial objects. The copper artifacts were made from nuggets beaten into thin sheets.

Copper is a relatively soft metal. By pounding several thin sheets together the Hopewell were able to make large objects.



Sharing Ohio's Prehistory

➤ SUMMARY

After reading *Ohio's Prehistoric Past* students will make and write a book to summarize what they have learned.

OBJECTIVES

At the end of this activity, each student should be able to:

- list five cultures from Ohio prehistory
- demonstrate familiarity with Ohio prehistory by making and illustrating a small book

BACKGROUND

Read introductory readings prior to this exercise for complete information.

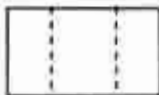
SUGGESTED PROCEDURE

1. Have students read *Ohio's Prehistoric Past*.
2. Lead students in designing the following book:
 - A. Lay the paper so that the 11" side is horizontal



- B. Using a pencil and ruler, measure and mark $2\frac{3}{4}$ " from the left side; do the same from the right side. These will be fold lines, if needed, draw pencil lines from the top to bottom.

- C. The book should look like an armoire, with double doors which open in the middle.



- D. On the left front "door," students can make a *word bank* of terms about Ohio's prehistory. On the right "door," they can write a brief story about one of the cultures mentioned in the reading, e.g. the Hopewell.



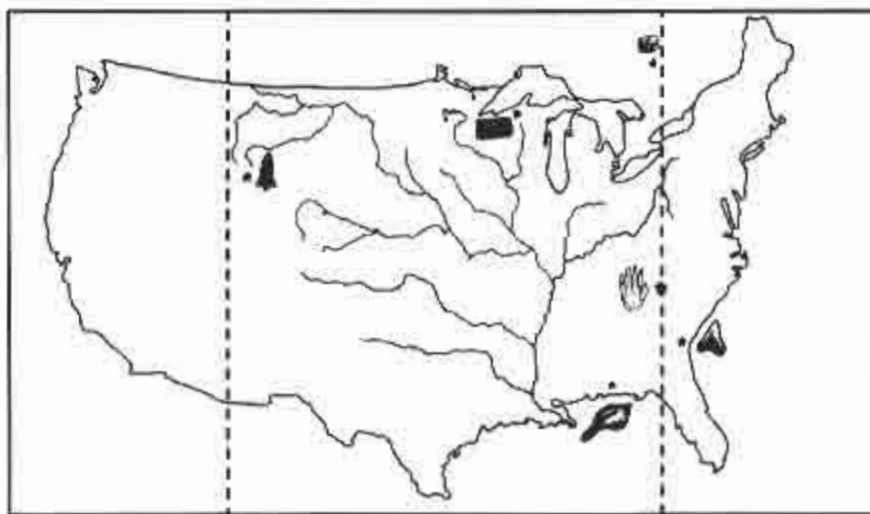
- ◆ **Subject:**
reading comprehension
writing
culture
- ◆ **Duration:** 60 minutes
- ◆ **Setting:** In classroom,
prior to a visit to the
park
- ◆ **Materials:**
Copy of Ohio's
Prehistoric Past
paper: 8 ½" x 11"
pencils
ruler
markers/crayons
flat surface (desk top)

Did You Know?

Ephraim G. Squier and Dr. Edwin H. Davis, both from Chillicothe, made the first detailed study of prehistoric structures in 1846 titled, *Ancient Monuments of the Mississippi Valley*.

artifact	<p>The Hopewell culture is known for trading because their sites contained materials from far away. Copper from Lake Superior, obsidian from Wyoming, and mica from North Carolina were used to make the artifacts found in their mounds.</p>
copper	
Hopewell	
mica	
obsidian	

When the “doors” are opened, the inside space can be used to draw a picture or mural to illustrate the student’s story



ASSESSMENT

Ask the students to share their books with the class after completion and lead a discussion on why they chose certain ideas, pictures, topics, etc.

EXTENSION

Hopewell Culture National Historical Park’s video *Legacy of the Mound Builders* is available for use in the classroom with this activity or before a visit to the park. This video may be used in conjunction with the reading materials for this activity. Call the park for more information and availability of the video.

Comparing Timelines

➤ SUMMARY

Students compare timelines between the Hopewell period and other world events. Students will use personal time lines to begin their study of chronology and stratigraphy.

OBJECTIVES

At the end of this activity, each student should be able to:

- ◆ compare events throughout the world that were occurring while the Hopewell were constructing their mounds 2,000 years ago
- ◆ identify the major periods of cultural change in Ohio's prehistory and list them in their proper chronological order
- ◆ define stratigraphy and chronology
- ◆ demonstrate and explain the importance of intact information to achieve accuracy

BACKGROUND

Chronology is something we use almost everyday. When someone tells us a story or when we watch a news report, it only makes sense if we can understand the story as it happened.

Timelines can visually show changes over time in different curriculum areas such as science, social studies, math and language arts. Timelines can document the events of a person's life, the stages of an animal's life, the sequence of how something occurred or the events in a time period. The timeline of Ohio's prehistoric cultures includes four major periods of time: the Paleo- Indian, Archaic, Woodland and Late Prehistoric.

The proper sequence of events must be known when trying to understand the past. Chronological order means that events are arranged in the order of the occurrence establishing a chronology. One way to display events visually in chronological order is with a timeline. A timeline is divided into equal time segments (month, year, century, for example), with one end representing the oldest events and the other end the most recent events.



- ◆ **Subject:**
history
culture
geography
- ◆ **Duration:** 45 minutes
- ◆ **Setting:** In class before or after a visit to the park
- ◆ **Materials:**
Two timeline worksheets (available in appendix)
construction paper cut into 7"x11" strips

Did You Know?

People have been living in what is now Ohio for over 11,000 years.

Archeologists always try to establish the age of the sites, artifacts, or events they are studying so that they can place them in chronological order. Each piece of information contributes some understanding to the overall story of the past, but only if information can be placed in chronological order.

Archeological data are often buried. Sites become buried by the deposition of small-grained particles (sand, clay, silt) throughout the action of wind, gravity, and water. When archeologists dig a site, they record the location of what they find, so that chronological order can be established. Objects discovered at the bottom of the pits dug by archeologists are the oldest, while those near the surface are the youngest. Stratigraphy is defined as the arrangement of information or events in layers, such as layers of rock. When vandals and collectors dig or loot a site, they remove objects that could determine the site's chronology, and therefore the archeologist cannot learn the site's chronological placement. Vandals mix the stratigraphy layers together and archeological events cannot be placed in order. Digging a site is like mixing up the pages in a history book. Looting and removing artifacts from a site is like tearing and throwing away a page of the past.

Everyone can help stop this problem by not digging or collecting artifacts from public or private land, by refusing to buy artifacts from people who dig and destroy sites, and by reporting people they see digging and collecting on land where they do not have permission.

SUGGESTED PROCEDURE

After reading *Ohio's Prehistoric Past*:

- ◆ Place the prehistoric timeline where all can see it.
- ◆ Ask the students if they know of any other events happening in the world during the time periods listed.
- ◆ List these events where all can see it.

My Timeline

1. Tell a story the students are familiar with out of sequence and leave some parts out. Ask students what was wrong with the story. Ask, "Why is it important to give information in order, including all of its details?" Define chronology and state the necessity of establishing chronological order when studying the past.
2. Tell the students they are going to be creating personal timelines. Pass out ten pieces of paper approximately 7" x 1". Students should list ten events in their lives. Next to each event, students should draw something that represents that event. These events should not have any obvious time links, such as "my eighth birthday party," or "I started fourth grade." The events could be things like "I was born" (rattle), "the family moved" (moving van), or "we went to Lake Erie on vacation" (lighthouse).
3. Have students shuffle the ten pieces. Pair the students together and have the partners exchange their unordered timelines. Each student should try to place the other's timeline into its correct order with the most recent at the top. Students should not communicate with each other.

4. After five minutes, have students return the “reordered” timeline to its owner, with their best guess of the chronology. Be prepared for unpredictable results. Have students share with their partner the correct order of their timelines.
5. Discuss what happened when we jumbled the pieces. Was the other person able to reconstruct your timeline without communication? It is difficult, sometimes impossible, to reconstruct a story if the order of events is not known.
6. Have students randomly remove four events from their personal timeline. Ask students if the chronological order would have been more difficult to construct and if the story of their classmate would have been as complete if there were even fewer strips.
7. Connect this activity to archeological sites by pointing out how archeological information is usually impossible to place in order if the site has been dug by looters (like scrambling or shuffling event strips) or if objects have been removed (removing strips).
8. Distribute the “My Timeline” activity sheet (which forms the backing for the timeline). Students glue their own events in chronological order with the most recent event at the top. They can then write the year of the event in the columns to the left of the strips or simply number the events one through ten.
9. Explain stratigraphy as the arrangement of information or events in layers, such as layers of rock. Ask students what happens when the stratigraphy is jumbled. Explain vandalism as a jumbling of the pieces.

ASSESSMENT

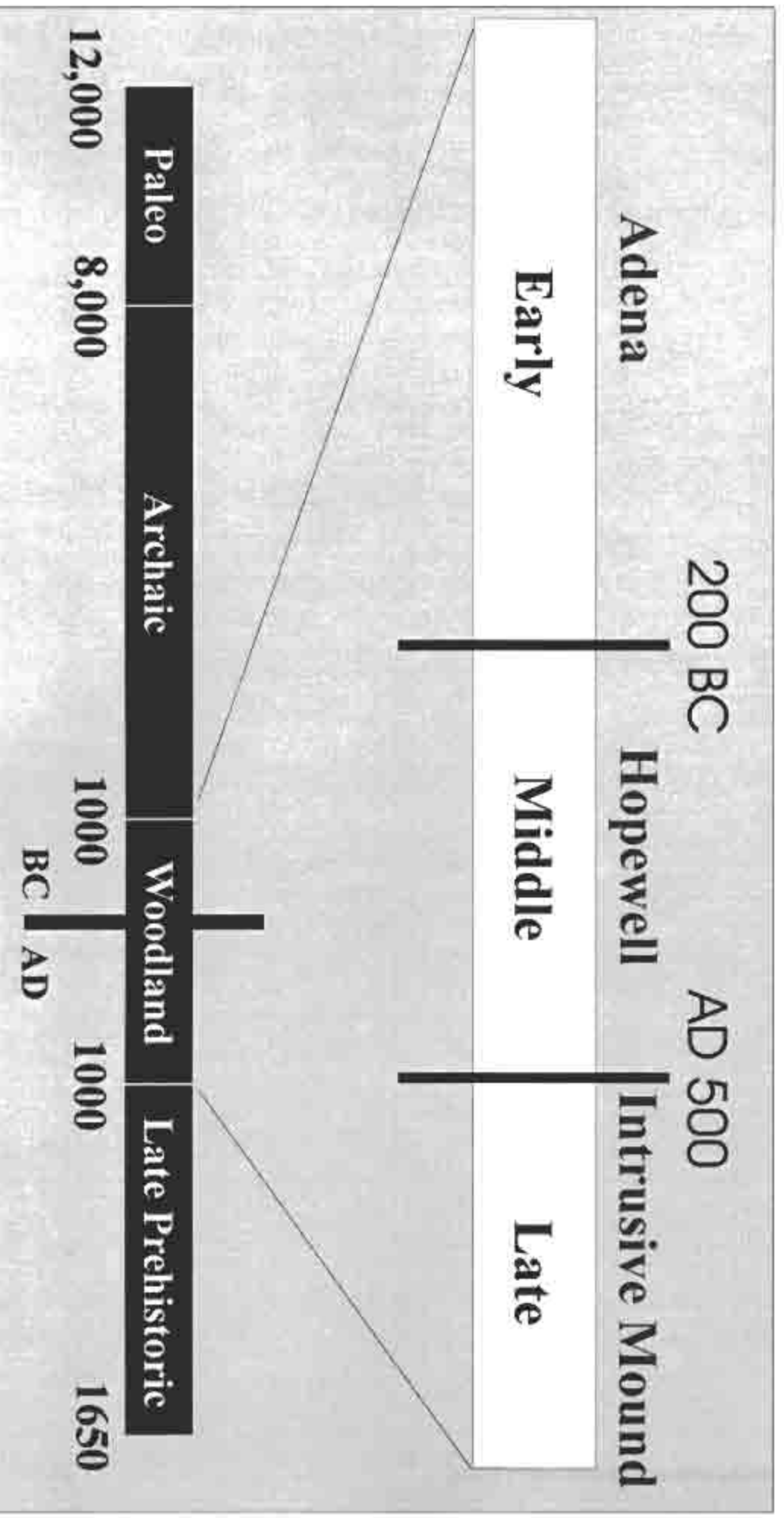
1. Show picture of “Stratigraphic Section.” Ask students how the layers here compare to their timelines.
2. Using a drawing on the chalkboard, different books layered on top of each other, or any other visual model, to demonstrate how stratigraphy is formed.
3. Using the background information and the “Stratigraphy Section” activity sheet, discuss the effects of illegal digging on archeological data recovery efforts.
4. Use the sheet and timelines to explore the following questions:
 - a. In what ways is your chronology similar to an archeological stratigraphy section? In what ways is it different?
 - b. Imagine that you cannot remember significant events in your life. How would that change the history of your life?
 - c. In what ways is a hole dug by vandals in an archeological site similar to a loss of significant events in your life?
 - d. In summary, what might you say to an artifact collector about the importance of leaving sites undisturbed, as it relates to the importance of stratigraphy?

EXTENSION

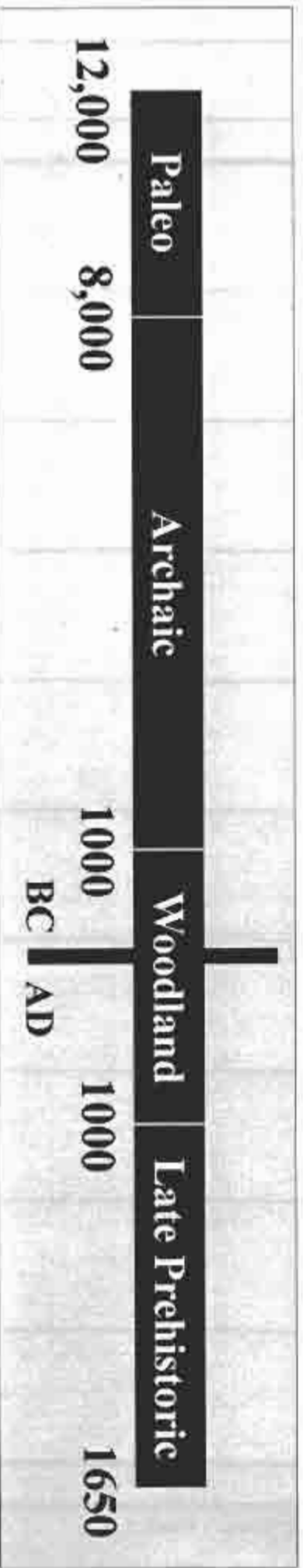
Lead a discussion with the class by asking, “Whom does the past belong to?” What can they do as students to help with preservation? Note that some states have laws protecting grave sites, even on private land.

OHIO'S PREHISTORY

The Woodland Period



OHIO'S PREHISTORY



The Life of _____

<i>Today</i>	

Fun With Words

➤ SUMMARY

By participating in a game, students learn vocabulary relating to prehistoric cultures and archeology.

OBJECTIVE

At the end of this activity, each student should be able to:

- ◆ define at least four terms relating to prehistory and the science of archeology

BACKGROUND

Throughout this curriculum guide you will encounter vocabulary words which you will want to introduce and reinforce. Some fun and motivating methods are described here. Modify them where necessary to suit your classroom needs.

SUGGESTED PROCEDURE

1. Encourage students to become familiar with the terms of the vocabulary list. Suggest studying the list at home prior to attending class.
2. On the back of each student tape a card with one vocabulary word written on it. The card should be placed so that others can see it but the wearer cannot.
3. Explain the rules to the students. The wearer is permitted to ask each individual one question which must be answered yes or no. For example, "Am I a person?" To the next person, "Am I a thing?" "Am I an animal?" "Am I food?" "Am I a deer?"
4. Once students figure out what they are, they may take their card and attach it to their shirts. At this point they can give hints to others who have not figured out what they are.
5. Keep going until everyone has determined who or what they are.



- ◆ **Subject:**
archeology
reading comprehension
culture
- ◆ **Duration:** 30 minutes
- ◆ **Setting:** In classroom, prior to a visit to the park. Will need an open area where students can move.
- ◆ **Materials:**
glossary
index cards
masking tape

Did You Know?

Even though researchers have been studying the Hopewell culture for over 100 years, details such as what language they spoke may never be discovered.

ASSESSMENT

Dig for Words

1. Divide the students into small groups or pairs. Have each group choose one person to act as the secretary.
2. Write a multi - syllabic word on the chalkboard or overhead projector. Direct the students to copy it vertically on a sheet of paper. After each letter of the word, write one or two words that include that letter and also pertain to the topics of archeology and prehistory.
3. Example:

Archeology
curator
Trowel
mica
Feature
Atlatl
Copper
Trade

EXTENSION

Tic- Tac- Word

This is played just like familiar tic- tac- toe game, but with a twist. On the chalkboard or overhead projector, draw a tic- tac- toe grid. In each square write a different vocabulary word. Divide the class into two teams. Determine which teams goes first; call it the X team. Call on the first person of the X team to define any word on the tic- tac- toe board. If the response is correct, the team gets an X in that square, but if the response is incorrect, an O goes in the square. Now it is the first player on the O team to choose a word. Scoring proceeds in the same manner described. A game is won when a team has three in a row. At the end of each game, erase the words and add new ones. Play begins where it left off on the previous game. Best three out of five games wins the championship for the day.

Quick Quiz

For a quick review use this method. Write the list of vocabulary words on the board or overhead projector. Call on a student to define any word of his/her choosing. That student, in turn chooses another person to put the word in a sentence so that the definition of the word is clear. Go on to the next word in a sentence; continue to allow students to choose the next person.

Locate Hopewell Culture National Historical Park

➤ SUMMARY

The student will locate and identify Hopewell Culture National Historical Park and nearby communities and rivers by labeling maps of Ohio and the United States.

OBJECTIVES

At the end of this activity, each student should be able to:

- ♦ locate Hopewell Culture National Historical Park and the Hopewell area of influence in relationship to: a) the continental United States, b) the Scioto, Ohio, and Mississippi Rivers, c) modern cities such as Chillicothe, Columbus, Newark, and Portsmouth
- ♦ list five raw materials obtained by the Hopewell through trade and/or travel

BACKGROUND

Hopewell Culture National Historical Park preserves several earthworks built by the culture we call the Hopewell. By locating themselves near major waterways, such as the Scioto and Ohio River, the Hopewell obtained materials that must have originated hundreds of miles away. The waterways led them to places such as the Western Rockies for obsidian and to the Atlantic Ocean for saltwater shells and shark teeth.

At one time earthworks could be found throughout eastern North America. The sphere of influence of the Hopewell stretched for hundreds of miles. Today, perhaps only 15- 20% of these earthworks and mounds remain. A few are preserved in state memorials and Hopewell Culture National Historical Park. The remnants of many earthworks and individual mounds remain on private property. This activity ends by looking at the location of a few of the larger publicly owned sites.

SUGGESTED PROCEDURE

1. Introduce students to Hopewell Culture National Historical Park.
2. Locate North America on the globe. Then have the students locate Ohio on the United States map. Locate Chillicothe and then locate Hopewell Culture National Historical Park on the Ohio map. Ask students to name and locate the major



- ♦ **Subject:** geography
- ♦ **Duration:** 30 minutes
- ♦ **Setting:** In classroom before a visit to the park
- ♦ **Materials:** Maps of Ohio & U.S (available in appendices) *Absolute and Relative Location* worksheet
- ♦ **Vocabulary:** absolute location relative location

Did You Know?

Hopewell Culture National Historical Park is one of eight national parks in the state of Ohio.

cities in Ohio (Columbus, Cincinnati, Cleveland, Toledo, etc.). Have students determine the location of prehistoric sites and other National Park Service sites in the state of Ohio. Repeat the process with rivers throughout Ohio and the United States.

3. Discuss the location of Hopewell Culture National Historical Park and its relationship to the rest of the United States.
4. Distribute a copy of the Absolute and Relative Location worksheet to every student. Students will label their home city, Hopewell Culture National Historical Park, Chillicothe, Columbus, and other major urban communities, rivers, mountains, and major bodies of water.
5. Have students locate items from the Hopewell trade and travel network:
 - a. Mica from the Blue Ridge Mountains
 - b. Shark teeth from the Atlantic Ocean
 - c. Shells from the Gulf of Mexico
 - d. Copper from Lake Superior, Michigan
 - e. Obsidian from Yellowstone National Park
 - f. Silver from Canada
 - g. Pipestone from Southern Ohio and Indiana along the Ohio River

ASSESSMENT

Absolute and Relative Location

1. Show students the map of Ohio and begin a discussion distinguishing absolute from relative location.
2. Pass out a copy of the Absolute and Relative Location worksheet to students. Using the information included on the worksheet and the map of Ohio, have students locate the site listed on the worksheet.
3. Students finish filling in remainder of worksheet.

Absolute and Relative Location

Absolute location means where something is located using a grid system. On a map you have both an alphabet and number grid lines and latitude and longitude grid lines. These tell exactly where something is located. Relative location means where something is located near or next to. The capital of Ohio's absolute location is 40°N , 83°W . Columbus's relative location is in Franklin county on the Scioto River. Some sites may have the same absolute location on this grid, but still be miles apart.

Prehistoric Sites	Absolute Location latitude and longitude lines	Relative Location City, county, near a river or other landform
Fort Ancient State Memorial	39°N , 84°W	Lebanon, Warren County, near Little Miami River
Fort Hill State Memorial	39°N , 84°W	Sinking Springs, Highland County, near Ohio Brush Creek
Leo Petroglyphs State Memorial	39°N , 83°W	Coalton, Jackson County, west of Raccoon Creek
Miamisburg Mound State Memorial	40°N , 84°W	Miamisburg, Kettering County, near the Miami River
Hopewell Culture National Historical Park, Mound City Group	39°N , 83°W	Chillicothe, Ross County, along Scioto River
Newark Earthworks State Memorial	40°N , 82°W	Newark, Licking County, near Licking River
Seip Mound State Memorial	39°N , 83°W	Bainbridge, Ross County, along Paint Creek
Serpent Mound State Memorial	39°N , 83°W	Peebles, Adams County, near Brush Creek

Note: There are more mound sites around Ohio than what is listed here; see if you can find out where they are.

Name: _____

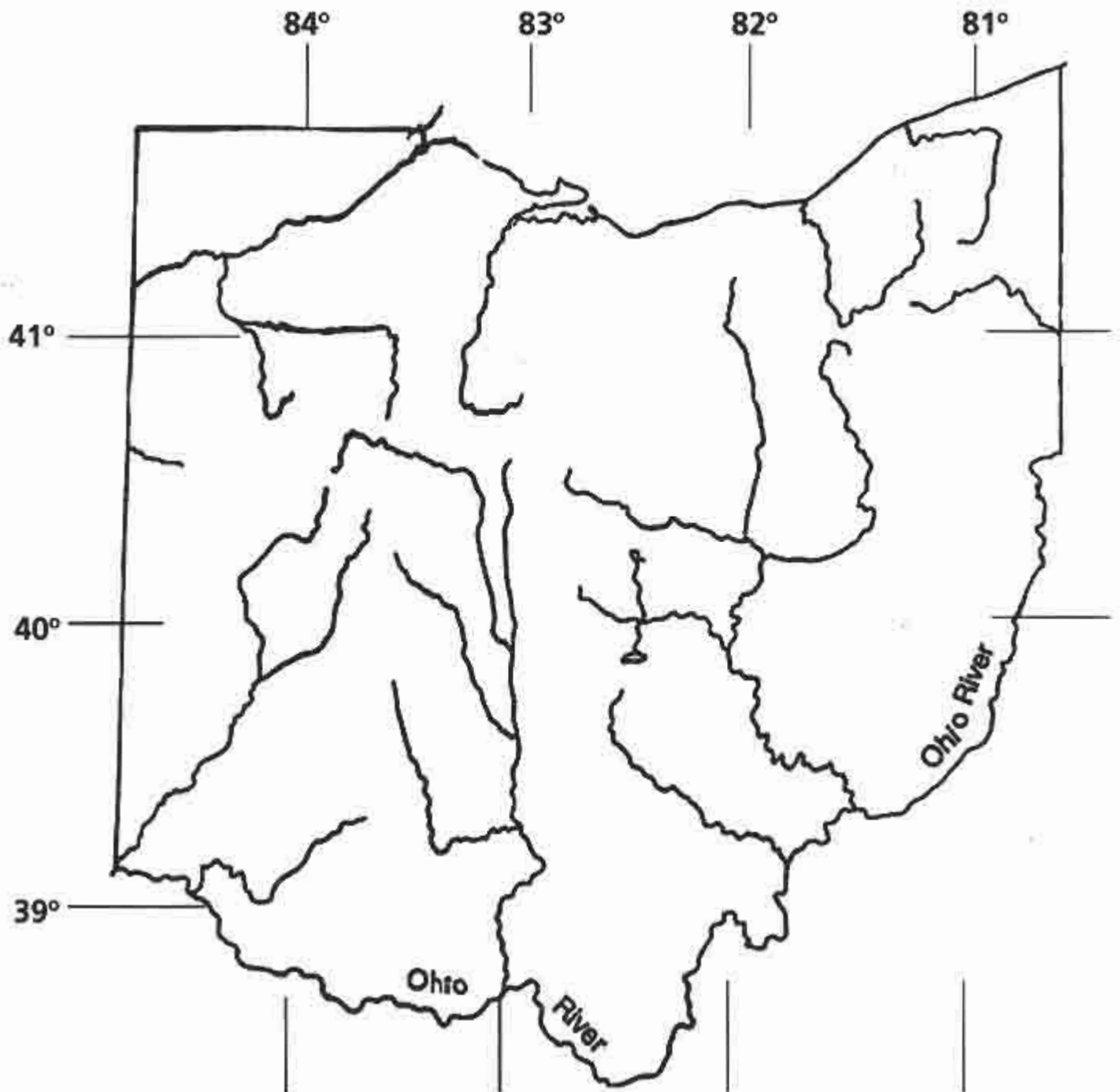
Absolute and Relative Location

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Fill in the chart below giving either the absolute or relative location for the prehistoric sites of Ohio. Locate these sites on an Ohio map.

Prehistoric Sites	Absolute Location latitude and longitude lines	Relative Location City, county, near a river or other landform
Fort Ancient State Memorial	39° N, 84° W	
Fort Hill State Memorial		Sinking Springs, Highland County, near Ohio Brush Creek
Leo Petroglyphs State Memorial	39° N, 83° W	
Miamisburg Mound State Memorial	40° N, 84° W	
Hopewell Culture National Historical Park, Mound City Group		Chillicothe, Ross County, along Scioto River
Newark Earthworks State Memorial	40° N, 82° W	
Seip Mound State Memorial		Bainbridge, Ross County, along Paint Creek
Serpent Mound State Memorial		Peebles, Adams County, near Brush Creek

Note: There are more mound sites around Ohio than what is listed here; see if you can find out where they are.



Why is the Past Important? Part One

➤ SUMMARY

Students bring to class an object, photograph, or drawing that represents their past. Through discussion, students will share reasons for the importance of preserving the past.

OBJECTIVES

At the end of this activity, each student should be able to:

- ◆ discuss the importance of preserving their past
- ◆ define why the study and preservation of the human past is important

BACKGROUND

Archeological sites and artifacts can be messengers from the past. If we know how to read their messages, these remains can tell us about the people who made, used, and left them behind. Although the owners of the artifacts and the inhabitants of the sites may have lived hundreds or even thousands of years ago, they undoubtedly had many of the same needs and concerns that we have today. Each culture, whether hundreds of years old or living next door, has its value.

These messages from the past belong to everyone. Most people are curious about links to the past. Material remains and the context within which they are found provide clues to cultural continuity and possibly, a glimpse on their perspective. Without these material remains, a link to the past is lost. The survival of a culture depends on maintaining the links from past to present to future.

The link to the past is provided through scientific analysis as well as through traditional values placed in archeological sites and artifacts. For example, Adena Mansion and Gardens, the 1806 home of former Governor Thomas Worthington, is valued because it provides a tangible link to the early history of Ohio. Preserving this historic building aids in providing scientific information about the lives of the inhabitants. Examining sites used by the Hopewell and other prehistoric cultures provides scientific information about the prehistory of our region. Preservation ensures a tangible link to the material culture of past societies.



- ◆ **Subject:**
culture
history
preservation
archeology
- ◆ **Duration:** 30 minutes
- ◆ **Setting:** In classroom, prior to a visit to the park
- ◆ **Materials:** Personal objects from home

Teacher Tip

Follow-up a field trip to Hopewell Culture National Historical Park with Part Two of this activity located in Section Four: Remembering the Past.

SUGGESTED PROCEDURE

1. Instruct the students to bring a picture or object from home that tells about their family's past. They may also bring a drawing of the object.
2. Share "background" information.
3. Working in groups of three or four, students should tell each other what the object reveals about their past.
4. Begin a class discussion. Ask the following questions:
 - ◆ Is it important for you to know about your past? Why or why not?
 - ◆ Is it important to know about the human past? Why or why not?
 - ◆ Humans have lived in Ohio for at least 14,000 years. Is it important to know about these prehistoric lives? Why or why not?
5. Ask students "What can we learn from the past?" Have students list ideas. Some possible answers include: how humans lived in the past; how culture changes; why culture changes over time.

ASSESSMENT

Ask students:

If your past is important to you, what statement can you make about the importance of the past in general?

If your past is important to you and the object you brought from home reminds you of your past, how would you feel if someone took that object?

EXTENSION

1. Have students exchange their object with a partner and hypothesize, without consulting the owner, what the object means to each other. Instruct students to compare notes about their personal objects.
2. Discuss with students the value of other cultures and ask them why we should be sensitive to other cultures.
3. See *Why is the Past Important? Part Two* in Section Four: Remembering the Past.

Look it Up!

➤ SUMMARY

Students complete the following worksheet to learn how to differentiate between reference materials as well as become familiar with some of the terms relating to archeology and prehistory.

OBJECTIVES

At the end of this activity, each student should be able to:

- ◆ identify six types of reference tools
- ◆ demonstrate familiarity with reference tools

BACKGROUND

Each day people use many kinds of reference materials to find information. To find the telephone number of a friend, you would look in the telephone book. The telephone book is a reference source. If you want to know where a park is in the state of Ohio, you would look at a map of the state. The map shows where the park is located, what roads and towns are nearby, and even the county where the park is located. You might watch a program on television about shark's teeth and want to know where in the oceans sharks live. You could look in an atlas to find out. All these different tools make finding information easier. Almanacs, atlases, dictionaries, encyclopedias as well as the World Wide Web are all useful reference materials.



SUGGESTED PROCEDURE

1. Discuss the definitions of the various reference tools listed on the activity sheet. Have students give examples of how each tool is used.
2. Have students complete the worksheet, *Look it Up!* Stress to students that the object is not to answer the questions (yet), but to learn how to find the information requested.

ASSESSMENT

1. Encourage students to look up the answers to the questions.
2. Discuss computers and their role as reference tools.



- ◆ **Subject:**
reference tools
reading comprehension
archeology
- ◆ **Duration:** 30 minutes
- ◆ **Setting:** In classroom,
before or after a visit to
the park
- ◆ **Materials:**
Copies of *Look it Up!*

Teacher Tip

Enlist the help of your school's librarian when introducing this activity to your students.

Look it Up!



Fill in the blanks with the correct reference tool used to answer the questions. When you have correctly identified the proper tools go back and try to answer the questions using the reference tools you selected.

Almanac	published each year, lists up- to- date facts, figures, charts and records about a variety of subjects
Atlas	a collection of maps and charts that provide information about a certain place's climate, population, geology, elevation, vegetation
Dictionary	gives correct spelling, pronunciation and meanings of words
Encyclopedia	a book or groups of books that have information arranged alphabetically on persons, places and things
Reader's Guide to Periodical Literature	a group of books that can help you find magazine articles on subjects
World Wide Web	collection of globally distributed text, multimedia documents and files and other network services linked to create an electronic library from which information can be retrieved quickly by searches

Read the questions below and write the reference source in which you would find the information.

1. What is an artifact? Dictionary
2. What do we currently know about the Hopewell? Encyclopedia
3. How does the climate in Mexico differ from that in Ohio? Atlas or World Wide Web
4. What percentage of the population in Ohio is Native American? Almanac
5. What is it like to live on an Indian Reservation today? Reader's Guide or World Wide Web
6. What other mound building cultures were found in Ohio? Reader's Guide or Encyclopedia
7. What are archeologists studying now? Reader's Guide or World Wide Web
8. Define preservation. Dictionary

Look it Up!

Fill in the blanks with the correct reference tool used to answer the questions. When you have correctly identified the proper tools go back and try to answer the questions using the reference tools you selected.



Almanac	published each year, lists up- to- date facts, figures, charts and records about a variety of subjects
Atlas	a collection of maps and charts that provide information about a certain place's climate, population, geology, elevation, vegetation
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Read the questions below and write the reference source in which you would find the information.

1. What is an artifact? _____
2. What do we currently know about the Hopewell? _____
3. How does the climate in Mexico differ from that in Ohio? _____
4. What percentage of the population in Ohio is Native American? _____
5. What is it like to live on an Indian Reservation today? _____
6. What other mound building cultures were found in Ohio? _____
7. What are archeologists studying now? _____
8. Define preservation. _____

A Penny For Your Thoughts

➤ SUMMARY

Students will examine an artifact and analyze what it tells about a given society.

OBJECTIVES

At the end of this activity, each student should be able to:

- ◆ define the differences between observation and inference
- ◆ use critical thinking skills to analyze, brainstorm, and interpret the item being examined

BACKGROUND

Science is based on observation and inference. Any phenomenon being studied must first be observed. An inference is a reason proposed to explain an observation. The hypothesis is a chosen inference that the scientist will attempt to confirm or disprove through testing.

Archeologists use observation and inference to learn the story of past people. By making observations about objects (artifacts and sites) they infer the behavior of the people who used the objects. Among the artifacts an archeologist finds at a site, sometimes a single object will provide vast amounts of information about a society. An example is a penny. From a penny, an archeologist could gather certain observations about the society from which it came, such as:

- ◆ The society had access to minerals
- ◆ Men in the society wore facial hair
- ◆ The society was capable of erecting large, open air monuments
- ◆ The society had a numerical system
- ◆ The society had a written language

From the observations of the coin, we may be able to infer other information. We could make the inference that the makers of this coin valued liberty. We cannot observe past values, feelings or emotions. How do we know that "Liberty" spells out a value, and not the name of the bearded man? To test that inference (hypothesis), archeologists would look for evidence at the site.



- ◆ **Subject:**
archeology
critical thinking
- ◆ **Duration:** 30 minutes
- ◆ **Setting:** In classroom,
before or after a visit to
the park
- ◆ **Materials:**
penny for each student

Did You Know?

About 200 carved effigy pipes were discovered underneath Mound 8 by Squier and Davis during their explorations of Mound City in 1846. That is why the mound is referred to as "Mound of the Pipes" today.

SUGGESTED PROCEDURE

1. Present students with a possible observation- inference scenario from their lives. Example: All the students in this classroom who ate in the cafeteria on Tuesday were ill on Wednesday (observation). What reasons (proposed inferences) might there be for this illness? Examples: food poisoning, virus, a student uprising.
2. In what ways might one or more of these inferences (hypotheses) be tested in order to come to a conclusion about the cause of the illness? Examples: Send all the students to the school nurse for examination; test the food from Tuesday; obtain a medical history from the parents of each student.
3. Divide the students into groups of three or four. Distribute one or two pennies per group. Ask the students to imagine that this “artifact” comes from an unknown society. Their task is to analyze the artifact and determine as much as possible about the people who made this artifact.
4. Ask the groups to create a list of statements about the coin. Within their groups students then determine which of their statements are observations and which statements are inferences.
5. Have them choose one inference (hypothesis) and think of ways archeologists might test it by looking at other evidence at the site.



ASSESSMENT

1. Ask the students to summarize what they learned about the importance of observation, inference, and hypothesis in archeology.
2. Discuss the problems of making assumptions about another culture based on how our culture lives. For example, archeologists assumed for years that the Hopewell were a hunting and gathering society. New evidence indicates that they may have also grown plants. Assuming they were a hunting and gathering society implies a society that seasonally moves, following the food source. The new evidence would suggest a population that may have been less migratory than previously thought.

EXTENSION

1. Give each group a foreign coin and follow the same procedure as above.
2. Ask students to bring in a food label. A soup can label works very well. The teacher can ask the same questions from this activity.

Today & Yesterday

➤ SUMMARY

Students will complete a chart comparing their lives with those of the Hopewell.

OBJECTIVE

At the end of this activity, each student should be able to:

- ◆ list the ways in which Hopewell and modern people meet basic needs
- ◆ compare and contrast the basic needs of the Hopewell to modern people

BACKGROUND

We all have the same basic needs: food, water, shelter. Yet the ways in which we meet these basic needs are as diverse as our habitats. While our physical needs are essentially the same as the Hopewell, the way we meet them is quite different. This activity compares our culture with the Hopewell culture.

SUGGESTED PROCEDURE

1. Lead the students into a discussion of survival by brainstorming a list of basic needs. Eliminate all non-essentials until the list approximates the list on the teacher page.
2. Pass out copies of "Today & Yesterday" and have students fill in the boxes. On some areas, if they cannot name the item, they may draw it. For example, if they cannot name the shelter, they can draw a picture of it.
3. Lead students in a discussion of what items on the list are the same. Were these people like us or very different?

ASSESSMENT

Continue to lead students into further discussions about culture with the activity "Whose Culture is it Anyway?"



- ◆ **Subject:**
culture
critical thinking
- ◆ **Duration:** 30 minutes
- ◆ **Setting:** In classroom, prior to a visit to the park
- ◆ **Materials:** Copy of the "Today & Yesterday" worksheet

Did You Know?

Squier and Davis' work *Ancient Monuments of the Mississippi Valley* was the first publication of the Smithsonian Library.

TODAY & YESTERDAY

<i>Teacher Page</i>	YOU	HOPEWELL
SITES	Chillicothe Bainbridge Columbus	Mound City Group Hopeton Earthworks Seip Earthworks
SHELTER	Apartment House Mobile Home	Bark House
FOOD	Pizza Milk French Fries	Deer Squash May grass
CLOTHING	Jeans Sweats Hats Tennis Shoes	Breech Clothes Fur Skirts Deerskin Shirts Shoes

TODAY & YESTERDAY

Name: _____	YOU	HOPEWELL
SITES		
SHELTER		
FOOD		
CLOTHING		

Comparing Cultures

➤ SUMMARY

Students will compare cultures using a chart.

OBJECTIVES:

At the end of this activity, each student will use a chart to:

- ◆ list different ways that cultures meet their basic human needs
- ◆ recognize that archeologists study how past cultures met basic needs by analyzing and interpreting the artifacts those cultures left behind

BACKGROUND

Culture is defined as the behavior patterns, arts, beliefs, and products of human work and thought typical of a group or population. These are usually behavior patterns passed down from an older generation to the next. Anthropology is the comparative study of humans and their behavior. Cultural anthropologists usually study behavior by observing the members of a cultural group as they live their lives and interact with one another. Archeologists learn about past cultures by analyzing material evidence (sites and artifacts).

People everywhere have several basic needs which must be met. These basic needs may be categorized as follows:

1. The need for food and water (economics)
2. The need for protection from the elements (clothing and shelter)
3. The need to reproduce and perpetuate the culture (marriage, kinship, education)
4. The need for explanation (religion, philosophy, science)

Human beings must satisfy basic needs in order to survive. Many of these needs are met through cultural adaptations. The many different ways that cultures evolve to meet these basic human needs result in the world's rich cultural diversity.

When studying other cultures, there is a tendency to emphasize the differences between people and to look at other cultures as inferior due to their differences. Cultures with less sophisticated forms of technology are frequently portrayed as simple-minded



- ◆ **Subject:**
anthropology
- ◆ **Duration:** 30 minutes
- ◆ **Setting:** In classroom before or after visit to park
- ◆ **Materials:**
"Comparing Cultures" activity sheet

Did You Know?

In 1917 Mound City was purchased by the War Department for the construction of a WW1 Army training facility called Camp Sherman. Only one mound, mound 7 (Central Mound), was left standing when the camp's construction was completed.

and naïve. However, on the contrary, such people often have unequaled understanding, knowledge, and adaptability to the environments in which they live. It is important not to accentuate “them” and “us.” When scientifically studying other cultures it is necessary to suspend judgment. One culture is neither better nor worse than another, just different.

A basic assumption of archeological study is that people who lived in the past had the same basic needs for existence as do people living in the present. Archeologists are anthropologists study past cultures by analyzing material remains (artifacts and sites) to learn how people met their basic needs. Archeologists could be compared to Sherlock Holmes, a detective of the past. They gradually piece together the culture of a people to understand more about them. Alone, artifacts disclose very little about a culture. By studying sites, artifacts and their relationship to each other and the environments archeologists discover the way people lived. Archeologists study a culture by studying the things the people left behind. As we learn about these past cultures through archeology, we also find that we learn about ourselves and that we share the same basic needs.

SUGGESTED PROCEDURE

1. List on the board students’ responses to the following: “What do you need to have in order to live?”
2. Now, help students categorize their list. They do not have to arrive at the four categories outlined above. Anthropologists themselves do not agree on how to categorize their needs. For example, the students may come up with eight needs: food, water, shelter, clothing, reproduction, transportation, education and explanation.
3. Distribute the “Comparing Cultures” activity sheet to the students. Write the category of basic needs (food, shelter, etc.) down the vertical column on the chart’s left side.
4. The students then construct the chart, comparing and contrasting the basic human needs as they are met in different cultures. The supplied “Teacher’s Page” simply offers suggestions using the four categories outlined above in the background material.
5. In a class discussion, the students compare and contrast our culture with two others (early settlers and the Hopewell). If either culture seems strange or inferior to the students, inform them that our culture can be baffling to people from another culture. For example, we obtain food mainly from grocery stores, whereas the Hopewell gathered their food from their environment.
6. Explain that because archeologists can neither ask the people who left the artifacts how they met their needs, nor observe them using the artifacts, past behavior must be inferred from the material remains of the culture. For example, if primitive plant and animal remains are present, archeologists could infer that the people were hunters/gatherers.

ASSESSMENT

As you analyze the chart, what do you notice about the ways cultures meet their basic needs? How do archeologists study past cultures? The students turn in their activity sheets for evaluation.

Comparing Cultures

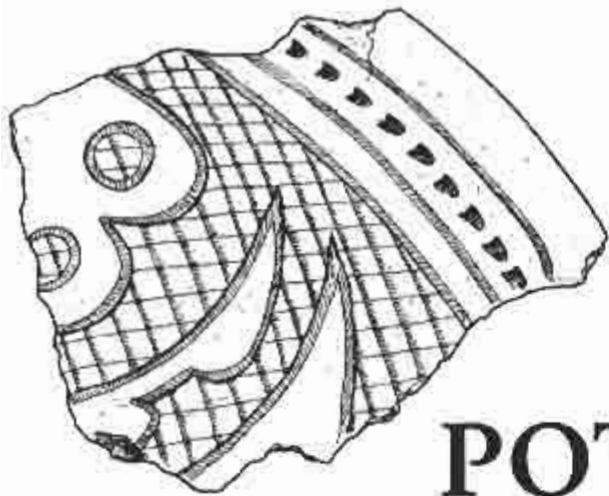
Basic Needs	Today	Early Settlers (18th- 19th century)	Hopewell (200 BC- AD 500)
Home economics (food and water)	pizza hamburgers ice cream tacos spaghetti bottled water city water systems and wells	corn potatoes wheat dairy products: eggs, milk, cheese cattle/pigs/sheep/chickens water from creeks/rivers and wells	sunflower wild berries fish/fresh water mussels deer/buffalo geese/ducks/wild turkey little barley nuts water from creeks/rivers
Protection from elements (clothing and shelter)	jeans t- shirts athletic shoes dresses clothes made of cotton, polyester, wool, and leather apartments/condos brick houses frame houses hotels/motels	clothes made of cotton, wool and leather long dresses with many layers stockings breeches/trousers boots log cabins brick houses frame houses	skirts (wrap- around type) breech clothes made out of leather animal skins some woven materials houses made of poles covered with skins or bark
Reproduction of culture	weddings/marriage school/college television & books family traditions holidays	weddings/marriage family traditions holidays	rituals weddings/marriage family traditions holidays
Explanation	Christianity Judaism Buddhism Islam oral histories/ storytelling	Christianity Judaism Buddhism Islam oral histories/storytelling	Probably animistic/shamanistic (believed that all things had a spirit; relied on a spiritual leader who exerted influence over the spirit world) oral histories/storytelling

**This serves as simply a suggestion and reference guide based on the four needs outlined in the background material. Students may organize theirs differently.*

Comparing Cultures

Basic Needs	Today	Early Ohio Settlers (18th- 19th century)	Hopewell (200 B.C.- A.D. 500)

TRACING THE PAST



POTTERY

Pottery vessels were an important part of several prehistoric cultures. These vessels were used in various aspects of Hopewell life- - from storage and cooking, to holding offerings during burial ceremonies. By about 200 B.C. the Early Woodland people had begun to make smaller, decorated pottery vessels that they buried with their dead. One of the more famous of these small, decorated vessels was the "Duck Pot." Some of these highly decorated vessels, which look surprising like pottery vessels from the Southeast U.S., may have been imported as trade items or could have been brought back from trips to the Gulf Coast for raw materials, such as large marine shells.



Site Flow Chart

➤ SUMMARY

An archeological research project requires many careful steps before beginning the actual excavation. Learn the steps required to take on a successful, responsible archeological project.

OBJECTIVES

At the end of this activity each student should be able to:

- ◆ arrange tasks in correct sequential order
- ◆ recognize the steps necessary to properly excavate an archeological site

BACKGROUND

Occasionally sites are partially or completely excavated to address specific research questions or to salvage information prior to disturbance by a development project. Working on a archeological dig is conducted in a methodical, organized manner. Certain steps have to be completed in order. The process of excavation destroys a site, and once it is dug, you cannot go back and do it differently.

SUGGESTED PROCEDURE

1. Lead the students into a discussion of archeology by brainstorming a list of tasks at an excavation. Eliminate all non-essentials until the list approximates that which follows.

Suggested list of tasks in no particular order:

- ◆ Begin fieldwork according to directions in research design.
- ◆ Wash artifacts. Be careful not to damage these fragile objects.
- ◆ Survey the area to determine the type of soil and the distance to water and slope.
- ◆ Use all the artifacts gathered to answer the research question.
- ◆ Place artifacts in separate containers. Take notes and photographs to document research.
- ◆ At day's end, collect all containers with artifacts, notes, maps and other documents and bring to



- ◆ **Subject:**
archeology
- ◆ **Duration:** 25 minutes
- ◆ **Setting:** In classroom before or after site visit.
- ◆ **Materials:**
paper
flow chart worksheet

Teacher Tip

Complete this activity with your students before continuing on to the following mock excavation activities.

laboratory.

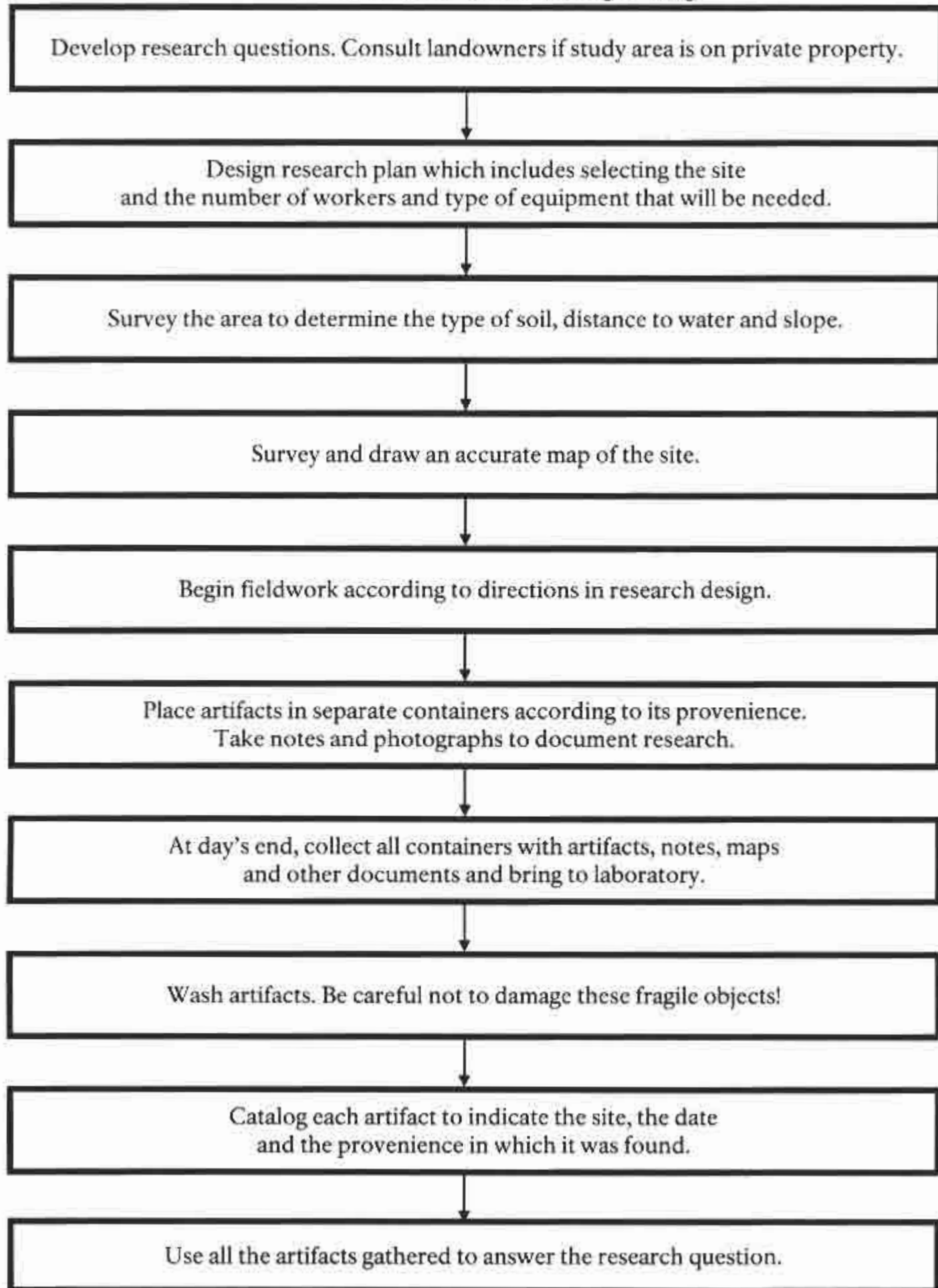
- ◆ Design a research plan which includes selecting the site and the number of workers and type of equipment that will be needed.
 - ◆ Catalog each artifact to indicate the site, the date, and the provenience in which it was found.
 - ◆ Develop research questions. Consult landowners if study area is on private property.
 - ◆ Survey and draw an accurate map of the site.
2. Compare the students' list of tasks with the provided list. How do they measure up?
 3. Provide students with the *Site Flow Chart* worksheet. Instruct students to write the tasks in the correct order on the worksheet.
 4. Consult the teacher's page for the correct order of the tasks.

ASSESSMENT

1. Group the students and have each group construct a flow chart poster that shows the step-by-step process of planning and carrying out an actual dig.
2. Require students to illustrate each of the steps with drawings or photos.

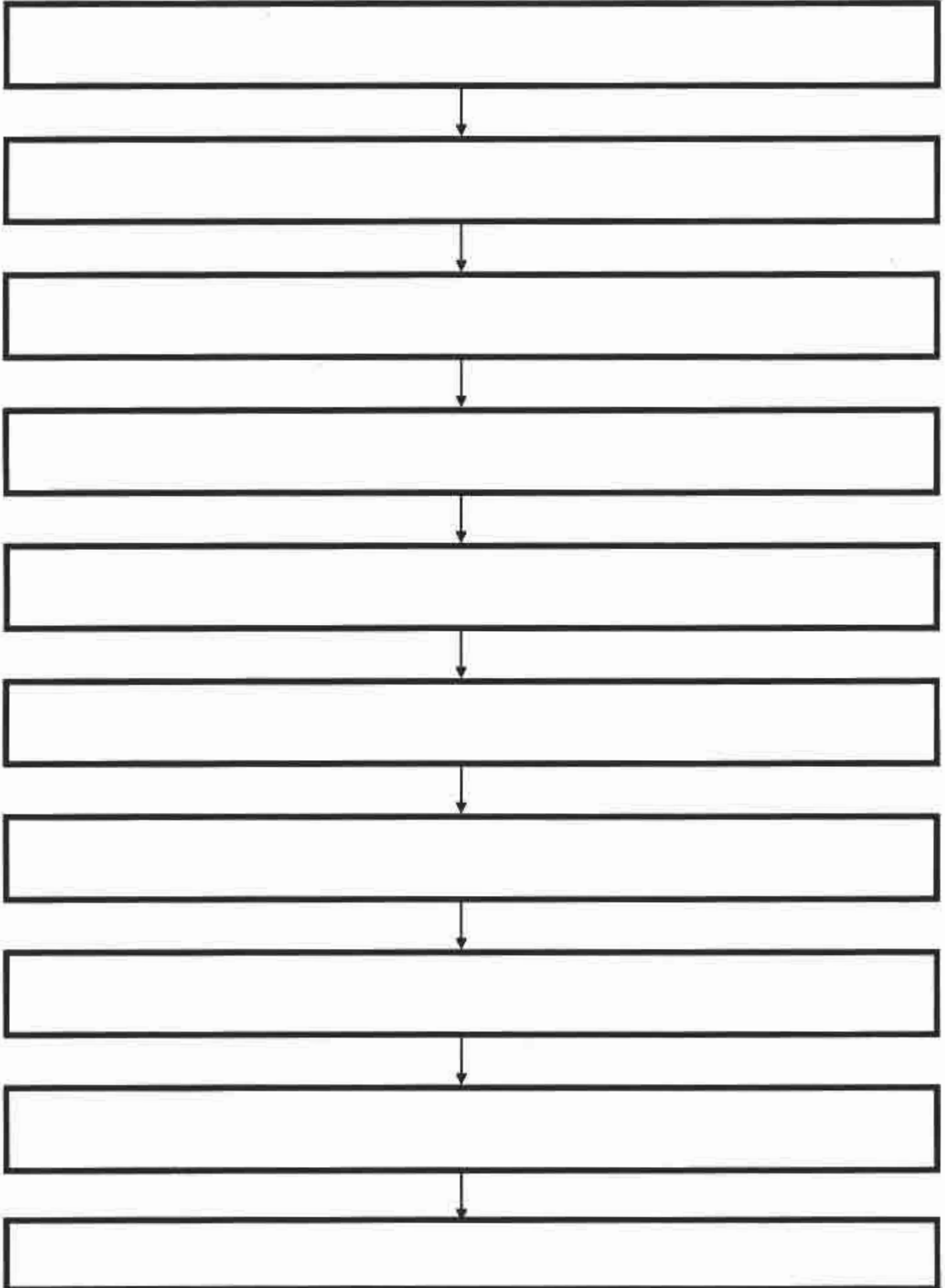


Site Flow Chart of an Archeological Dig



Name: _____

Site Flow Chart of an Archeological Dig



Peanut Butter & Jelly Archeology

➤ SUMMARY

Students will examine the principle of stratigraphy by building an edible archeological site.

OBJECTIVES

At the end of this activity, each student should be able to:

- ◆ demonstrate how time is recorded in layers
- ◆ define and demonstrate stratigraphy
- ◆ explain how stratigraphy can be destroyed through human intervention

BACKGROUND

Stratigraphy is defined as the arrangement of rocks or materials in layers. As layers are deposited, the oldest is usually on the bottom and the youngest on top. By examining materials found in these layers and their relationships to each other, archeologists can determine what artifacts are older or younger than others.

A habitation site is a place where people have lived. Prehistoric habitation sites may be marked by postholes, cooking pits, middens (trash pits), or broken pottery or other artifacts.

SUGGESTED PROCEDURE

1. To keep costs minimal, have students bring the ingredients from home.
2. Tell the students they are going to conduct an experiment in archeology and then eat it. Pair the students and have each pair obtain a paper plate with the listed materials.
3. Use the following narrative to tell the students what is occurring:



- ◆ **Subject:**
archeology
- ◆ **Duration:**
45-60 minutes
- ◆ **Setting:** In classroom,
before or after a visit to
the park
- ◆ **Materials:**
For each student:
3 slices of bread
3T. of jam or jelly
2T. of peanut butter
raisins
sprinkles
2 paper plates
hard candies or M&M's
plastic knife
plastic spoon
large straw
napkins

Teacher Tip

This list of ingredients is only a suggestion. Substitutions can be made. We have used chocolate chips instead of raisins, and cake frosting instead of peanut butter for children that have food allergies. Try adding gummy worms, just for fun!

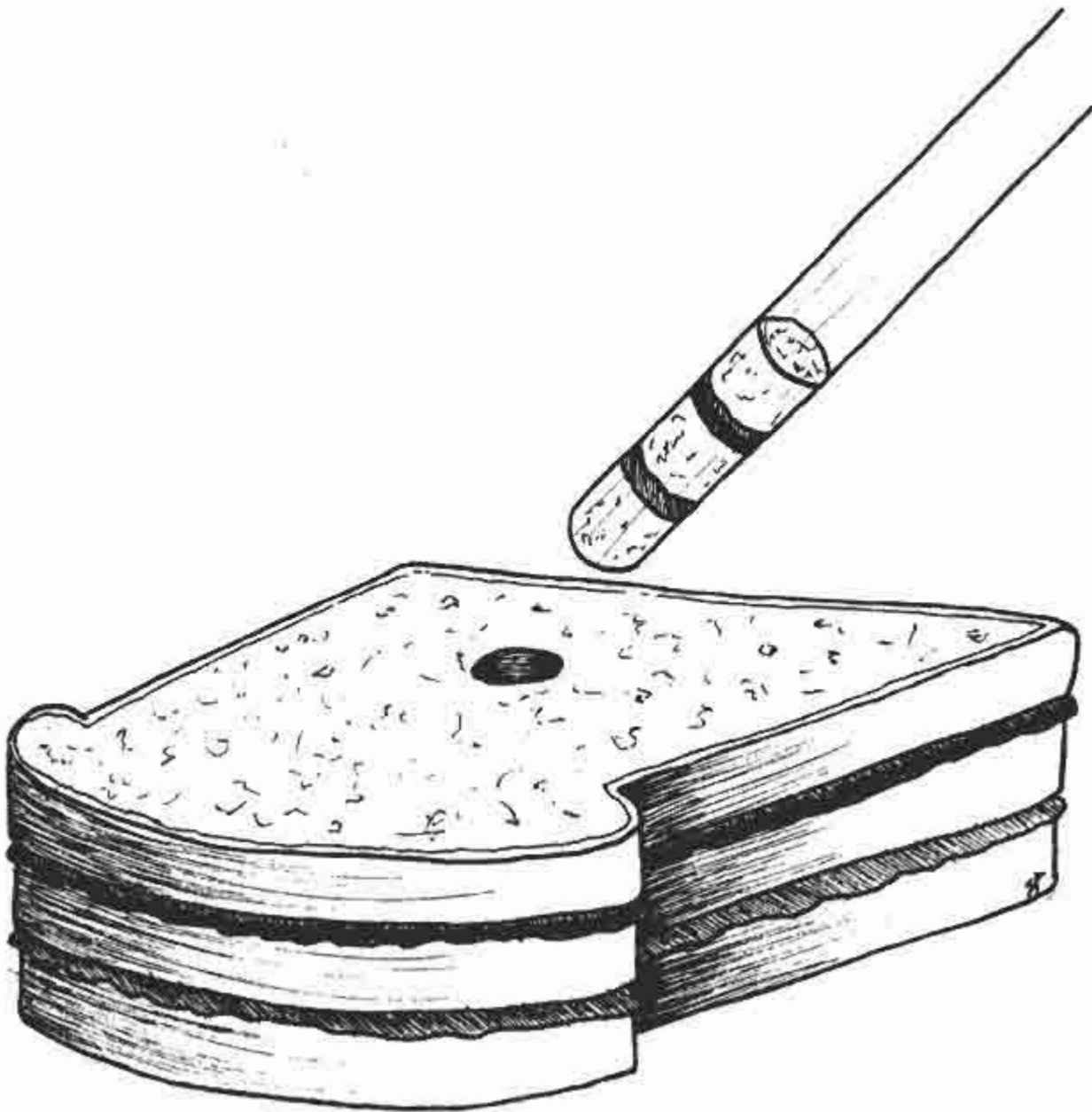
Peanut Butter and Jelly Narrative:

1. Here we have a field somewhere in southern Ohio. (*Lay down a slice of bread.*)
2. Along comes a flood and leaves behind a layer of mud. (*Spread the peanut butter.*)
3. Shortly after the flood, a group of Archaic people camp in the area and build a fire. Their fire leaves behind charcoal and rocks that crack from heat. (*Have students slice raisins in half and arrange them in a circle on the sandwich, and sprinkle chocolate sprinkles inside the circle.*)
4. The Archaic people depart and through time, a layer of dirt and rock form over the campsite. (*Lay down another piece of bread.*)
5. Eventually another group, this time the Hopewell culture, comes to the same field. The people build shelters. (*Have students gently cut small indentations or holes in the last slice of bread. These represent the holes dug to hold posts for the shelters.*)
6. The Hopewell make pottery. But some pottery does get broken. (*Have students dig two more small holes in the top of the bread, one on each side.*)
7. Into these holes they throw the broken “pottery” (*broken M & M’s or candies*).
8. The Hopewell leave the site and because it is close to the river, the site is flooded. (*Students spread jelly, which may cause some redistribution of pottery, a situation which can also occur on a real site.*)
9. Through time, other layers are laid down until the present and the final layer of dirt covers the site. (*Students put on top layer of bread.*)
10. After the students finish making their “sites” or sandwiches, have them exchange sites. Tell them as time passes the land changed hands to other American Indian groups and to the European settlers. (*Optional*)
11. Today, an archeologist suspects this field was a prehistoric habitation site and conducts random core samples and surveys. (*Have students push large straws randomly through their sandwiches. If they find a sprinkle or hit something, they may have found a habitation site.*)
12. The archeologist conducts a test excavation at the site. (*Students cut a square into the sandwich and remove layers, one by one. If they find something, they have found the habitation site.*)
13. From the test unit, students can see their layers. This is stratigraphy. Ask the students to identify the oldest layer. Which habitation site is older? This is similar to what happens when archeologists examine the site.

ASSESSMENT

Ask students if they could read their layers if they put the sandwich in the blender. Explain to the students that this is what happens when we plow, loot, or bulldoze a habitation site. To fully excavate this site, students would have to remove each layer, layer by layer. Would they have the sandwich then? Excavation is a destructive process. For the final excavation, students may divide and eat their sandwiches, either layer by layer or all at once.

(Alternatively, if they eat it all at once, and find a pottery shard before it is eaten, it may be considered salvage archeology, or archeology done in the face of impending loss. If it gets in their mouth before they “discover” it, it is lost in the action of modern use.)



Excavate a Trash Can

➤ SUMMARY

Students excavate the classroom trash can using archeological concepts.

OBJECTIVE

At the end of this activity, each student should be able to:

- ◆ explain how their study of garbage relates to the methods of archeology
- ◆ define midden

BACKGROUND

The excavation of ancient garbage dumps, called middens by archeologists, is a very important way of learning about the people who made them. By studying what people have thrown away, archeologists can learn a great deal about a culture.

Just as we do not throw our trash in any old place, neither did prehistoric people. Their middens are a rich source of archeological information about their way of life. Archeologists excavate middens slowly and carefully, recording the location of artifacts and samples recovered from the midden. They analyze the tiny fragments of prehistoric meals (bone slivers, seed hulls, plant parts) and charcoal from cooking fires. The animal and plant remains can be identified and archeologists can learn very precise information about the economy of past people.

If a midden is disturbed and the layers mixed, it becomes nearly impossible to interpret the life ways of past cultures. Everyone can help by not digging archeological sites or collecting artifacts, by refusing to purchase artifacts from people who do, and by reporting anyone seen disturbing archeological sites to proper law enforcement authorities. During this activity students will practice some archeological methods and learn about themselves by excavating the classroom trash can. Remember, the site will be destroyed through excavation, so record as much information as possible before you excavate.

SUGGESTED PROCEDURE

1. Without removing your classroom trash can from its location, explain to the students that you will be demonstrating the excavation process by excavating the classroom trashcan.



- ◆ **Subject:**
archeology
- ◆ **Duration:** 60 minutes
- ◆ **Setting:** In classroom before or after park visit
- ◆ **Materials:**
2 pieces of graph paper (available in appendices)
pencils
trowels
rulers
chalk
plastic baggies

Did You Know?

The name "Hopewell" came from Mordecai Hopewell who owned the land upon which the largest Hopewell Mound sat; many prehistoric cultures (e.g. Adena, Hopewell) are known by the name of the first or most significant excavated site where the culture was identified or described.

2. **Planning:** Ask the students, "What do you expect to learn from excavating the site?" As a class formulate a hypothesis. Determine what tools they will need from the classroom for their excavation. They will probably need pencils, paper, a ruler, paper bags, etc. In their field notebook (which can be a piece of paper) have the students describe how they would excavate the trash can. Ask the students, "Will you use shovels, a trowel, tweezers, or your hands?" Show the students a trowel and explain that it is used to remove small amounts of dirt by scraping. "What layers might you expect to find in the trash can?" They may find all the spelling papers you just gave them or a layer of snack trash from break.
3. **Mapping:** Archeologists locate sites on maps. Students should locate their site on a map by drawing a map of the classroom showing the location of the trash can. Be sure to include the address of the site, the classroom number, and the site name on the map. *Refer to Diagram 1.*
4. **Excavation:** There are two different ways this site can be excavated to demonstrate stratigraphy: *Refer to Diagram 2*
For both methods of excavating, it might help to mark the boundaries of each level in chalk on the outside or inside of the trash can. This will help the students when they make a diagram and profile of the different levels.
 - A. Excavate the trash in **measured layers**. For example, the top layer could be the first six inches from the top. The second layer could be placed 6 to 12 inches from the top. The layers can go on like this until the bottom of the trash can is reached. Each layer of trash should be placed into bags labeled accordingly. *Refer to Diagram 3.* Allow a different group of students to excavate each layer.
 - B. Excavate the trash can according to **natural (or cultural) layers**. For instance, students may find in the trash can layers made mostly of a certain kind of material such as construction paper, notebook paper, food items, pencil shavings, discarded pencils, crayons, and so on. Excavating by cultural layers is a bit trickier than excavating by measured layers. You have to be aware of where each level begins and ends and you also have to be sure you record these levels on your maps and in your notebook. Each layer of trash should be placed into bags and labeled accordingly. *Refer to Diagram 3.*
5. **Recording:** Have students record in their field notebooks (a piece of paper may be used) how the site was excavated and what was found in each level. Include a brief description of the artifacts and their positions within the level (measure how far from the wall of the can and how far from the top of the can the artifacts were located). *Refer to Diagram 5.*
6. **Mapping:** If the students have enough time have them draw a diagram of the trash can's contents after excavating each layer. *Refer to Diagram 4*
7. **Profile:** A profile is a diagram of the stratigraphy of the site. Usually profiles are made when a site has been excavated in sections. For example, students may divide their trash can in half and remove half of its contents. Then a profile is made of the midline of the trash can.

ASSESSMENT

After the excavation is completed, examine the artifacts. Students may write a short report describing what was found at the site. From their field notes, have students make observations about the people who deposited the trash:

1. Were the artifacts you found on the bottom of the trash can placed there before or after the artifacts found on top?
2. What would happen to your analysis if someone had shaken the trash can or had removed some objects from the bottom of the can before they excavated?
3. Would you expect to find similar trash in other classrooms?
4. Would the contents of the site change if they were in the art classroom?
5. Were any artifacts found that were not familiar? For what might some of them be used?
6. From your field notes, would you be able to reconstruct the site so that it looked exactly like it did before excavation?

EXTENSION

This activity may be used as an introduction to the activity *What's Hidden in the Midden?* Follow-up with *What's Hidden in the Midden?* to continue your investigations of midden archeology and the scientific process.

Diagram 1: Map of classroom showing location of trash can

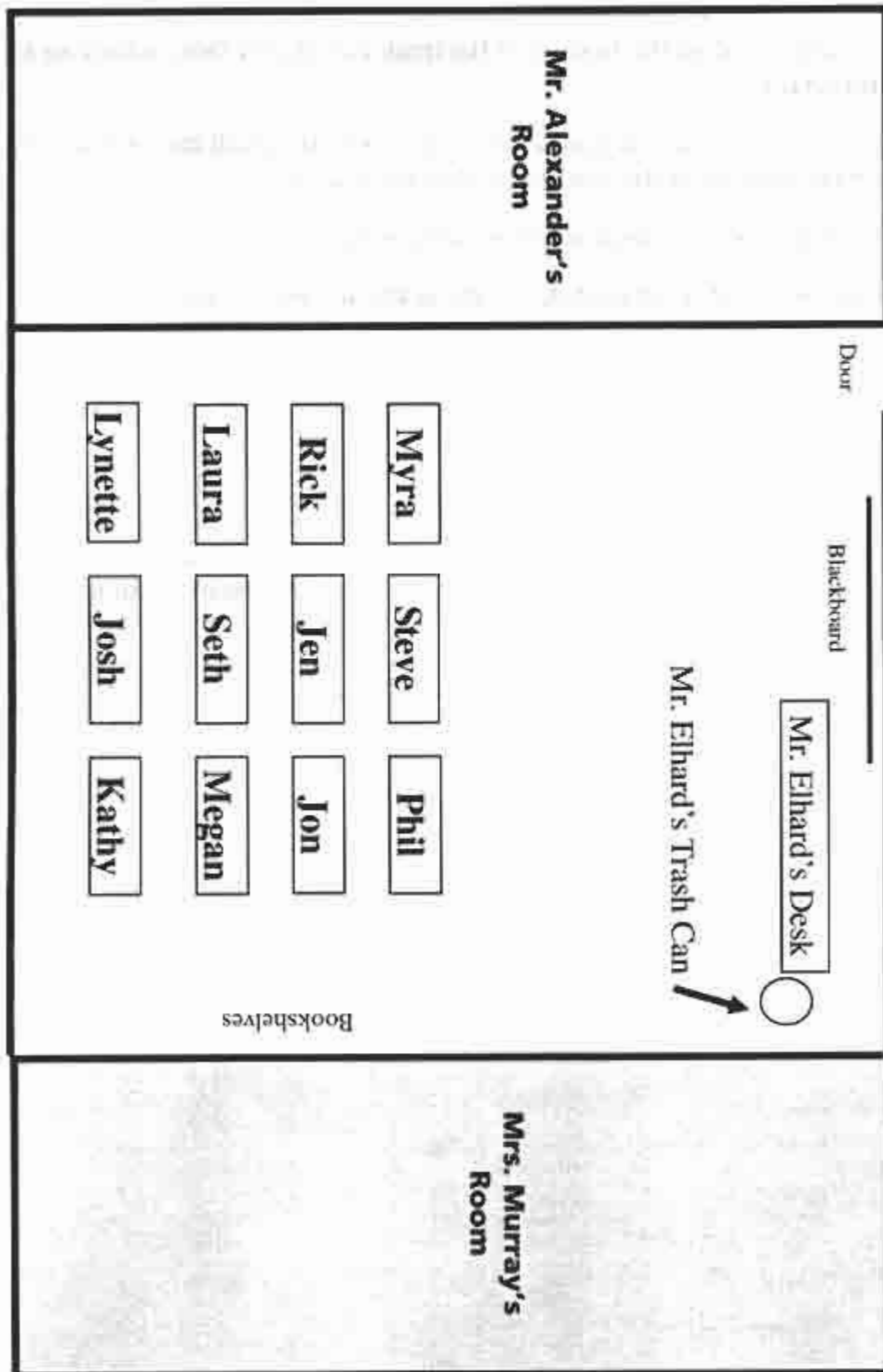


Diagram 2: Excavating by Measured or Natural Layers

Measured Layers

Level 1
0 - 6"

Level 2
6 - 12"

Level 3
12 - 18"

Level 4
18 - 24"

Level 5
24 - 30"



Natural Layers

crumbled paper

food remains

packaging "peanuts"

crumbled construction
paper

pencils & shavings

Diagram 3: Labeling an artifact bag



site name

which level

date of excavation

excavators' names

Diagram 4: Map of each layer

Layer 1



Playground Archeology

➤ SUMMARY

Students will understand how archeologists gather information by surveying the surface of the ground.

OBJECTIVES

At the end of this activity, each student should be able to:

- ◆ achieve familiarity with archeological terms and methods
- ◆ develop and use mapping skills and grid systems for surveying a given area

BACKGROUND

Archeology has been described as both an art and a science. Archeology as an art began in prehistory the first time an item from the past was picked up, admired, displayed, or used by the finder. Archeology as a science is only about 200 years old, with the greatest advance in technique and methodology occurring within the last 35 years. Archeology concerns itself with the material past of humans. Things human-made or items from nature used by humans interests the archeologist. These include tools, buildings, jewelry, animal remains, clothing, and earth disturbed by human activities.

Popular books and films glamorize the work of the archeologist, especially the aspect of collecting materials. However, field work, scientific digging, and collecting is only a small part of the work of an archeologist. The bulk of the work involves classification, analysis, and interpretation of objects found by the archeologist. Artifacts are often small pieces of broken ceramics, minute bones of animals used by prehistoric peoples, particles of plant remains, or other mundane articles. The value of analysis and interpretation by the archeologist cannot be overemphasized. It is in this realm of science that the greatest understanding of the lives of ancient people can be gained.

Collecting may be done in varied settings: caves, open fields, stream beds and habitation sites. However, wherever it occurs, the methods used are most important. Archeologists use a grid system to mark any finds. These grids may be vertical, horizontal, or both, depending upon the site. Artifacts and features for example: house basins, garbage pits, and fire pits are marked as to location, mapped, and photographed. Careful notes are made in journals concerning the site.



- ◆ **Subject:**
archeology
geography
- ◆ **Duration:**
60 minutes
- ◆ **Setting:** Outside
before or after a visit to
the park
- ◆ **Materials:**
Playground area
"Artifacts"
String or twine

Did You Know?

The present Hopewell Culture National Historical Park evolved in part from the former Mound City Group National Monument. The national monument was established by a proclamation signed by Warren G. Harding in 1923.

SUGGESTED PROCEDURE

Select a playground area. It can be grassy or blacktop. If a jump pit or sandbox area is available, they can also be used. Check ahead for any dangerous or undesirable materials. The area can be seeded in advance using pens, shells, hairpins, acorns, leaves, ceramic pieces, old jewelry pieces, etc. Be careful of sharp edges in the playground area.

1. Divide the playground into areas.
2. Assign a group of students to each area.
3. Instruct students to make a grid of the area assigned using string or twine on the ground surface. A grid is provided in the appendix.
4. Estimate the area of the grid by pacing. Check the accuracy by actual measurement.
5. Compare the measurements. How accurate is estimation by pacing?
6. Draw the grid and sketch the location of objects on paper.
7. List the objects found and map where located on the grid.
8. List any plant or animal materials found in this area.
9. Using the list of objects found, have each group fill in the worksheet provided.

ASSESSMENT

Make comparisons of the areas.

What event may have taken place here?

Was this a home, a ceremonial site, or a market site?



My Observations

Name (s): _____

Which object is most helpful for identifying the culture? Why?	
How did the objects get to their location? (People, animals, wind, or other things)	
What do the objects tell about the people who lived in the area?	
Describe the environment of the site. Is the area shady, swampy, sunny, forested, flat, or rolling?	
Which objects are organic (will decompose) or inorganic (will not decompose)?	
What could be recycled or reused?	
What are the possible uses of the object?	
Could the object still be useful to you?	
Why are the objects found in some areas and not in others?	
Does finding a lot of the same thing in one area tell you anything about the use of the site?	

What's Hidden in the Midden?

➤ SUMMARY

Working in teams, students learn the techniques for sifting, removing, keeping track of, analyzing, and classifying the contents of a prehistoric midden.

OBJECTIVES:

At the end of this activity, each student should be able to:

- ◆ achieve familiarity with archeological terms and methods
- ◆ define midden

BACKGROUND

Much of our knowledge about prehistoric cultures comes from studying the objects they left behind. The science of archeology often focuses on sites known as middens. Middens are deposits that people have left behind, the “garbage dumps” of long lost communities. We can infer many things about what materials they used in daily life by studying objects such as bone, wood and shells that have been preserved in middens.

In this activity, students learn that materials discarded or lost by people long ago can provide valuable clues for reconstructing a picture of an earlier culture. In a way, these materials, and what we can infer from them, are like puzzle pieces in an emerging image of a culture’s way of life.

In this activity, teams of students work together to excavate objects from layers of soil in shoebox “middens.” While practicing the methods of archeologists, students infer information from objects, and share drawings and explanations of clues from the past.

SUGGESTED PROCEDURE

Planning the Middens:

1. In the weeks before the activity, divide your students into groups and begin collecting materials for the middens. Enlist parent help, and if possible, arrange to have some assistants available to help you on the day you build your middens.



- ◆ **Subject:**
preservation
archeology
- ◆ **Duration:** 60 minutes
- ◆ **Setting:** In classroom
before or after a visit to
the park
- ◆ **Materials:**
Archeologist Checklist
Task Cards (available in
appendices)
shoeboxes
sand, soil and leaves
strawberry baskets
trowels
plastic spoons
butcher paper
egg cartons

Teacher Tip

Contact Hopewell Culture National Historical Park and schedule a park ranger to present this activity to your students. All materials are included and there are no fees.

2. When the simulated artifacts have been collected, make a plan for where the objects will be placed in the shoebox middens. There is no one right way to layer your middens. Multiple layers are ideal but are not absolutely necessary for the objective of the activity to get across. For those who are doing the middens quickly, or want to re-use the same middens in different classes, using only soil may be more convenient, or one layer of soil, with a layer of leaves on top for layering.

Making the Middens:

1. Set out the empty shoeboxes in a row. Put the shoe box bottoms into their lids to give the boxes added strength.
2. Count and sort the objects you collected to be “artifacts.” On the bottom of each midden, place the objects you have chosen to be buried deepest, then cover them with sand. Lightly mist the top of the sand layer with water and tamp down the sand.
3. Place a different variety of objects in the middle layer of soil, sprinkle with water and tamp down the soil.
4. To stimulate student interest, arrange some especially interesting objects on the surface, and cover these with a layer of leaves.

The Day of the Activity:

1. Begin by arranging all the shoe box middens together in a rectangular pattern on the floor or table top, and numbering them, so the students can see where their portion fits into the larger “find.” This set-up gives younger students a basic sense of a grid approach to mapping an area, thus conveying the archeological need to keep careful track of the locations where objects are found. If you plan to group middens this way, it is desirable to use shoeboxes that are all the same size.
2. Make a single large group map in which students record objects found in their areas. Use a large sheet of butcher paper and trace the outline of each midden and midden number within it. Students will tape their maps made of their midden onto the appropriately numbered area on the group map.
3. Decide how you want to form teams of students. Group students who will work well together. Plan a system for switching roles. For instance, switch roles after each layer, or after the team has found a certain number of artifacts.

Introducing the Activity:

1. Ask students to imagine that the area mapped on the butcher paper is located on a hillside that was once the site of a prehistoric village. Define a midden as a pit or dump where objects have been disposed of or discarded and become buried over time.
2. Review with students that archeologists are scientists who study the life and culture of past people. This work often involves excavation and examination through the layers of middens to find and study artifacts from past humans.

- i. Explain to the students that archeologists are respectful of past people and want to learn as much as possible about them, so they work carefully at three main tasks.

Write the three tasks on the board:

- ◆ **Excavators** dig very carefully
 - ◆ **Mapmakers** draw maps and record where objects are found
 - ◆ **Curators** clean and preserve objects
2. Explain that students will be working in teams of three on each midden. Explain that they will share the three tasks either by agreeing to take turns or by following whatever system you have decided upon.
 - ◆ The **Map Maker** first makes a map of the midden by tracing the shape of the midden on the paper. Alternatively, you may use the provided midden map in this activity. Mention that the Map Maker will not need to draw exact pictures of the objects the team finds. A circle can represent a coin, for example. If they find another coin, they can use the same symbol again. Younger students may prefer to trace some of the objects. Older students can make a separate map for each layer of the midden.
 - ◆ The **Excavator** carefully works on one layer of the midden with a spoon, brush and sifter (rather than digging a hole to the bottom), until an object is uncovered. Before the excavator takes the object out of the midden, he/she alerts the team so the Map Maker can determine where it should be drawn on the map. You will probably also want to stress that while they will dig downward slowly, they also need to carefully examine all across each layer.

The strawberry baskets may be used as sifters to remove small objects. Excavators can get teammates' help sifting and removing soil into trays and sliding the soil off these trays into a large bucket (or trash bag) as the soil accumulates. (Put one basket inside another so smaller artifacts can be found.)
 - ◆ The **Curator** cleans the objects with a brush, then numbers and groups them with other similar objects in an egg carton. The Curator also makes a key that tells what each of the Map Maker's symbols means.
 3. Have students form teams of three, and ask the teams to cover their tables with newspaper.
 4. For older students, pass out the **Archeologist Checklist Task Cards**. Be sure each group knows how they will share the tasks before allowing them to get their midden. Ask teams to send a Curator to pick up the middens and equipment when they are ready to begin.

The Activity

1. Encourage Excavators to go slowly, so as not to miss an artifact or mix layers. With all students it is important to stress lateral exploration as well as downward excavation. One complete (horizontal) layer should be removed at a time being careful not to disturb the layer underneath. Rushed vertical digging could move or damage artifacts in lower layers.
2. With older students, remind Map Makers to make a new map when their team comes to a new layer of artifacts. (The leaves on top count as the top layer.) Ask questions like such as

“Which objects do you think are from longer ago? How do you know?”

3. Completed excavations range in time from five to ten minutes to 20 or 30 minutes. Encourage students who finish early to compare and describe or sketch the simulated artifacts. If two teams finish early, have them compare their findings.
4. Once the teams have completed their excavations and have cleaned up the excess soil, explain that in the next session the class will discuss what has been found at the dig site.
5. Have each group make sure their names are on their maps and egg cartons, and then put them in a central storage area.

ASSESSMENT

Discussing What Was Hidden in the Middens

1. Have students gather in their midden groups and pass out their egg cartons and maps. Let them have a few minutes to re-examine and discuss their finds.
2. Begin with a very open discussion, encouraging students to talk about any surprises, controversies and ideas. After their initial comments and reactions, guide the discussion toward the subject of teamwork and how it felt to be archeologists collaborating on a project.
3. Focus the group on the nature of the objects collected by asking students to help you list on the chalkboard all of the different kinds of artifacts uncovered. For review, ask which objects are older- those in the top or the bottom layer?
4. Ask if there were differences between beads or bones or feathers that might be important. For example, some students may have found shells with holes in them, while other shells lacked holes. What could have caused these holes? Some holes are made by the natural predators of mollusks, but some holes can indicate that people drilled the shells to make tools or jewelry.
5. Once you have the artifacts listed down one side of the chalkboard, ask the students to suggest some possible uses for the objects. Write these as headings across the top of the chalkboard, such as Food, Cookware, Clothing, Jewelry, Shelter, Tool, etc.
6. Invite students to infer what uses the various artifacts may have had and list the artifact in the appropriate column or columns. Some artifacts may be placed in more than one category. For example, a piece of rawhide could be used for both clothing and jewelry.
7. Ask, “If we pretend that the middens were real, what could we guess about the lives, customs and eating habits and environment of the people who left these items behind?” Encourage students to support or dispute their inferences.
8. Explain that archeologists often disagree, since they cannot be sure of what it was like long ago. Encourage students to discuss whether a particular inference is farfetched or supported by observable evidence. Point out that what we know about modern people can

sometimes help us make inferences about the past.

9. The evidence we bring in support of an inference can include the findings from the past and knowledge from our own time, but there are many things about the past that we cannot know for certain. Discuss the very important fact that our inferences about other cultures are limited, not only by partial evidence, but also by the assumptions and values of our own cultures. Our own ingrained patterns and ways of looking at things may prevent us from understanding assumptions and practices of others that may be quite different from our own, even sometimes leading to completely distorted conclusions.

EXTENSIONS

1. Ask students to select one artifact from their team's egg carton to sketch and write about. Tell them to list some of the inferences they can make about the object, then draw a picture of how people may have used the object in the past.
2. After students have completed their artifact reports, share the reports, or display the reports on the wall or as part of a book where all can see and enjoy them.

What Ought to Rot

➤ SUMMARY

Every archeological site is affected by conditions such as soils and climate. Watch what happens to vegetable matter in variable conditions to gain an understanding of the effect of these conditions and the decaying process.

OBJECTIVES:

At the end of this activity, each student should be able to:

- explain how archeologists use scientific methods to test hypotheses

BACKGROUND

Archeology gives students the opportunity to apply scientific methods to real situations and to hone critical thinking skills. Archeologists apply scientific methods by formulating plans to gather and analyze data. This information helps them test hypotheses about the people they are studying. Research also includes analyzing the objects people made or used (artifacts) and the locations in which human activity took place (sites). For example, if archeologists find corn at a site, they might hypothesize that the former residents were farmers and test their hypothesis by analyzing soil samples or noting the presence or absence of farming implements. Researchers also engage in “experimental archaeology,” the replication of past practices using modern materials, such as making clay pots using the coil method to learn about ceramic technology.

This activity demonstrates how archeologists use scientific methods. Through this activity, students learn that some evidence from past cultures survives over time, and some does not, thus influencing the conclusions that researchers can draw.

Every archeological site is affected by conditions such as soils and climate. Some sites are found in hot, dry deserts; some in frozen tundra; some underwater; some in caves; some in soils that drain well, or in wet clays. Wet conditions present an interesting situation in which bacteria that decomposes the vegetable matter is sealed off from oxygen. Artifacts buried in wet environments are “preserved” until exposed to air. If not properly treated with wax or similar consolidates, they immediately begin to decompose.



- ◆ **Subject:**
preservation
archeology
- ◆ **Duration:**
Setting up for the first time will take 40 minutes. Then only 15 minutes one time a week for a month
- ◆ **Setting:** In classroom before or after a visit to the park
- ◆ **Materials:**
8-ounce clear plastic cup for each student
piece of any fruit for each student
water
plastic wrap
freezer or refrigerator
clay for wrapping fruit
lamp
masking tape
small gravel (7 ½ cups)
rubber bands
Observation Worksheet

SUGGESTED PROCEDURE

1. Divide the class into small groups.
2. Set up each of the work stations to simulate the site conditions: freezer, lamp, and cool, and warm places in the room.
3. Give each of the groups five cups and have students in each group set up the cup and label them with masking tape as outlined below.

CUP 1: CONDITION 1 - FROZEN (arctic site)

- ◆ Put the fruit in the cup, surrounded by gravel, but so the fruit can be seen through the cup.
- ◆ Fill the cup with water and place the cup in a freezer.
- ◆ Label the cup "frozen."

CUP 2: CONDITION 2 - DRY (desert cave site with extremely little moisture present)

- ◆ Fill the bottom of the cup with 4 cm of gravel and carefully place the fruit onto the gravel, so the fruit can be seen easily.
- ◆ Place in a hot, dry (under lamp) location.
- ◆ Label the cup "dry."

CUP 3: CONDITION 3 - HUMID (typical coastal site or anyplace with a lot of moisture)

- ◆ Fill the bottom of the cup with 4 cm of gravel and place the fruit carefully on top of it.
- ◆ Add water until it just touches the fruit.
- ◆ Seal the cup with plastic wrap and rubber bands.
- ◆ Be sure the fruit can be seen from the outside.
- ◆ Place the cup in a room temperature location.
- ◆ Label the cup "humid."

CUP 4: CONDITION 4 - UNDER WATER (site submerged in water)

- ◆ Same as cup 1, but stored in a cool place (not a freezer).
- ◆ Label the cup "under water."

CUP 5: CONDITION 5 - WET CLAY (site covered with mud and remains wet)

- ◆ Compress damp clay around the fruit and wrap with plastic wrap.
- ◆ The fruit must be as airtight as possible.
- ◆ Fill the bottom of the cup with 3 cm of gravel and fill the cup with water until it just begins to show on top of the gravel.
- ◆ Place the clay ball on top of the gravel. Seal the cup with plastic wrap and rubber bands.

4. Ask the students the following questions:
 - ◆ What does the term "experiment" mean? (testing information for results)
 - ◆ What kinds of experiments do you know about or have you done?
 - ◆ Can you name all of the components that were used or considered to make up this experiment?

ASSESSMENT

1. Ask students to hypothesize about what will happen to each of their containers. Tell them they will observe any changes over the next four weeks, noting what variables are affecting each condition. Remind them that they cannot open their clay cups until the end of the experiment.
2. Each group will observe its container every seven days and will note changes. Groups will not report to the rest of the class at this time. After four weeks of observing, they will be ready to find out whether their hypotheses were correct and to state their conclusions before the class. The rest of the class then can check their hypotheses with the results.
3. Ask students to compare their results with their original hypotheses. Discuss the variables and the conditions that resulted in the best preservation.
4. Discuss with students their ideas about the five steps in the Scientific Process and describe the cyclical nature of the scientific process.

EXTENSION

1. Ask students to research the conditions of each site that were set up in each cup, and, if possible, identify actual archeological investigations at each of the different conditions. They should include a drawing of how each site and its surrounding environment would look.

Applying the Scientific Method

1. What's the Problem?

What clothing, or textiles, did people of the Hopewell use? Why are very few artifacts or clues regarding textiles found at prehistoric sites?

2. Gather Evidence

Textile samples that have been found in relation to the Middle Woodland period are made from milkweed using a twining process (as opposed to weaving).

3. Make a Guess - A Hypothesis

"I guess that clothes were made and used, but they have decomposed over time."

4. Experiments and Observations

Test milkweed cloth in extreme soil and weathering conditions.

5. Conclusion - Was Hypothesis Covered?

Milkweed cloth decomposes in extreme conditions. Therefore, people living during the Middle Woodland period could have had clothing, but the clothing was decomposed.



Common Milkweed



Hopewell cloth

Observation Worksheet

Name: _____

Conditions of Experiment (Circle): Frozen Humid Under Water Dry Wet Clay

Hypothesis: _____

Description of material:

	Week 1	Week 2	Week 3	Week 4
size:				
shape:				
color:				
other observations:				

Conclusion: _____

Prehistoric Tool Time

➤ SUMMARY

By observing the form and shapes of tools from the past, students will make predictions about tool functions.

OBJECTIVES

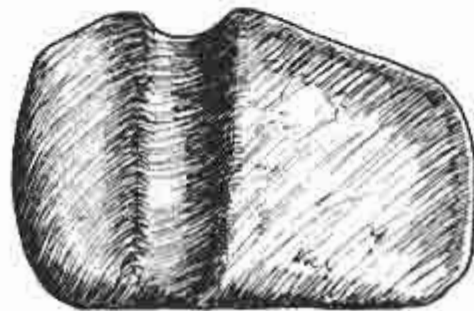
At the end of this activity, each student should be able to:

- ◆ brainstorm in groups ways in which certain mystery tools were used.
- ◆ explain how the Hopewell used the natural resources available to them to fashion tools needed for daily living.
- ◆ compare the functions of prehistoric tools to their modern counterparts.

BACKGROUND

Native Americans used stone, bone, wood, and shell to make tools and utensils. The material, its natural shape and structure determined how it would be used. Shells were used as hoes, scoops, scrapes, and cups. Stone was used to make projectile points, knives, scrapers, hammers, fish net weights, and many other implements. Sometimes one of these objects was used to fabricate a tool of another material. For example, antler tips were used as pressure flaking instruments in the making of projectile points.

Stone continues to be used today: some surgeons prefer scalpels and surgical instruments made of obsidian, a resource used by the Hopewell. Many students throughout Ohio, particularly rural students, are familiar with stone tools. Some students in rural areas may even have stone tools in family collections.



- ◆ **Subject:**
critical thinking
- ◆ **Duration:** 30 minutes
- ◆ **Setting:** In classroom or at the park, with a park ranger
- ◆ **Materials:**
Modern Tool Kit
Hopewell Culture's
Tool time trunk

Teacher Tip

Contact Hopewell Culture National Historical Park and schedule a park ranger to present this activity to your students. All materials are included and there are no fees.

SUGGESTED PROCEDURE

1. Students break into groups and are given tools from a prehistoric tool kit. Within their groups students brainstorm how the tool was used.
2. Students are asked to consider the purpose for which each tool might have been used based on its shape, structure, and the material from which it was made. Each group will select a scribe for their group to note all comments regarding the tool.
3. After a brief period of brainstorming, the students report their tool's possible uses to the class. Instruct students to review the list of comments and determine within their individual groups, or as a class, which comments are inferences and which are observations.

ASSESSMENT

1. Lead students in a discussion about the details that can be learned about a society from examining an artifact such as a tool.

EXTENSION

1. Students may write a paragraph on how they would make a certain tool if they lived 2,000 years ago.
2. Students can visit the library to research what others (e.g. the “experts”) have said the tools were used for. If no resource material is available in the library, check the Suggested Readings section of this guide.
3. Alternatively, students may research modern implements that serve the same function.



Habitats of the Hopewell

➤ SUMMARY

Students will create collages of what may have existed in the Ohio valley 2,000 years ago. Learn how the Hopewell used these resources available from the environment in their daily lives.

OBJECTIVES

At the end of this activity, each student should be able to:

- ◆ define and compare three habitats in the environment where the Hopewell lived
- ◆ list at least five examples of plants and/or animals utilized by the Hopewell culture
- ◆ explain how the Hopewell may have met their needs with the resources available to them

BACKGROUND

Archeologists have determined that the landscape of Ohio after the Paleo - Indian Period (post 8,000 B.C.) was one of forests with pocket prairies, interlaced with rivers and streams. It is from these diverse habitats that Ohio's native cultures, including the Hopewell, gathered the raw materials needed in their daily lives. The broad valleys and rolling hills of central and southern Ohio formed the Hopewell heartland. The rugged Appalachian plateau in the east and the flat plains of the west of the central Scioto River and Paint Creek valleys, gave way to a rich land with easy access to a variety of resources.

The forests which covered the land were lush and varied. Trees such as black walnut, wild black cherry, butternut, and sugar maple grew in the valleys. A mixture of oak, hickory, and chestnut trees grew on the hills. The forests were broken by occasional pockets of prairies. These open grasslands provided access to various edible wild plants and game. Likewise, the Scioto River and Paint Creek supplied a third ecosystem attracting various fish, mussel, and bird species.

Keep in mind that the Hopewell environment supported many plants and animals that are now extinct or gone from Ohio. These include elk, bison, and wolves, and such plants as the American chestnut.



- ◆ **Subject:**
ecology
- ◆ **Duration:** 30 minutes
- ◆ **Setting:** In classroom before or after site visit
May also be done as homework
- ◆ **Materials:**
From home:
poster board
glue
Scissors
old magazines

At school:
scissors
black paper

Teacher Tip

Contact Hopewell Culture National Historical Park and schedule a park ranger to present this activity to your students. All materials are included and there are no fees.

SUGGESTED PROCEDURE

1. Lead students into discussion of habitats, defining habitat as the place where you live.
2. Students are given the homework assignment of creating collages. Students will make one collage for each of the three habitats: prairie, forest, and river (stream). From magazines and newspapers at home, students collect pictures of plants and animals associated with these habitats. These pictures are glued into place in the collages, in the appropriate habitat. For example, grass would go in the prairie collage and the squirrel would go in the forest collage. Other examples might be included on more than one collage: deer would be in both prairie and forest, and snakes would be on all three.
3. When the students bring in their collages, lead a discussion on what may have been here and what might not have been here 2,000 years ago. For example, wolves and American chestnuts may have been here, while dandelions and honeysuckle were not.
4. If the students have an item on their collage that was not here 2,000 years ago, they can “black” out that item with a construction paper cutout.
5. Using the examples on their collages, have students determine how plants and animals were used by the Hopewell people. For example, fish from the river provided food. Deer provided food, clothing, and tools. Trees provided food (nuts and berries) and fuel for warmth and shelter materials. Plants provided food, medicine, and fibers for weaving.

ASSESSMENT

You may want to lead a discussion comparing how we use our environment. Alternatively, discuss with students how the local habitat has changed with the removal of some species such as bear and loss of habitat like the tall grass prairie and the introduction of other species such as coyote and Canada thistle.

EXTENSION

1. Follow-up this activity with *Supertime 2,000 Years Ago* and continue your students’ exploration of the Woodland Period environment.
2. Invite a park ranger to your classroom and involve your students in a interactive version of this classroom activity combined with *Supertime 2,000 Years Ago*.
3. The introduction of non- native plant species remains a problem today. Hopewell Culture NHP manages 1,200 acres of land within Ross County and has plans in place to eradicate and control exotics such as multiflora rose, garlic mustard and golden rain tree, to name a few. The species take over an area and out compete native species preventing their growth and eventual exterminate. Contact our park for more information about volunteer programs and service projects that your school can become involved in with helping us eradicate non- native species.

Suppertime, 2,000 Years Ago

➤ SUMMARY

Students prepare menus using a timeline of available foods.

OBJECTIVES

At the end of this activity, each student should be able to:

- ◆ list resources the Hopewell people may have eaten 2,000 years ago.
- ◆ create a meal that may have been eaten by the Hopewell
- ◆ list methods available for food preservation and preparation

BACKGROUND

From hearth pits, storage pits, and refuse pits, archeologists have begun to piece together the prehistoric Hopewell diet. Diet for the Hopewell was varied and well rounded. Resources for the Hopewell may have been so abundant some scientists have estimated that these peoples may have had to work only half a day to meet subsistence needs.

Although the available resources allowed for a varied diet, the diet was seasonally dependent. For example, black walnuts may have been available in the winter while blackberries would have been out of season. This activity explores the year - round diet of the Hopewell and asks students to figure out how their foods may have been stored and preserved.

SUGGESTED PROCEDURE

1. Discuss with the students what they had for breakfast or dinner the night before. Then ask them what the Hopewell may have eaten 2,000 years ago. Students may even brainstorm a list of potential foods if time permits.
2. Pass out to each student a copy of the food timeline *Suppertime 2,000 Years Ago*. Discuss with them how to read the timeline. You may want to discuss the various foods listed on this sheet.
3. Have the students answer the questions and create the menus.



- ◆ **Subject:**
culture
- ◆ **Duration:** 25minutes
- ◆ **Setting:** In classroom before or after site visit
- ◆ **Materials:**
Pencil
Copies of "What's for Dinner?"

Teacher Tip

Contact Hopewell Culture National Historical Park and schedule a park ranger to present this activity to your students. All materials are included and there are no fees.

ASSESSMENT

1. Finish by discussing with the students whose diet they would prefer. Ask them who had the more varied diet.
2. Ask them what would happen if one resource was made unavailable in the timeline, for instance if it was a bad year for grapes or ducks. Ask them what would happen if it were a bad year in modern times for wheat or corn. Could we learn more from these varied diets?

EXTENSION

1. Recreate some foods in the classroom.
2. Have students find pictures or sources of some of these foods.
3. Discuss Hopewellian ways of cooking. How do you cook without metal kettles or pots?



Goosefoot, *Chenopodium berlandieri* also called lamb's quarters, was one of several starchy seed plants the Hopewell harvested. Goosefoot has more protein and fiber and less fat than corn. A cousin to spinach, young plants and very young leaves of older plants are eaten as greens or when freshly picked, added to salads. The seeds, ground into a dark meal, make a flour for cakes or boiled until soft to make a cereal.

Hopewell Food Production



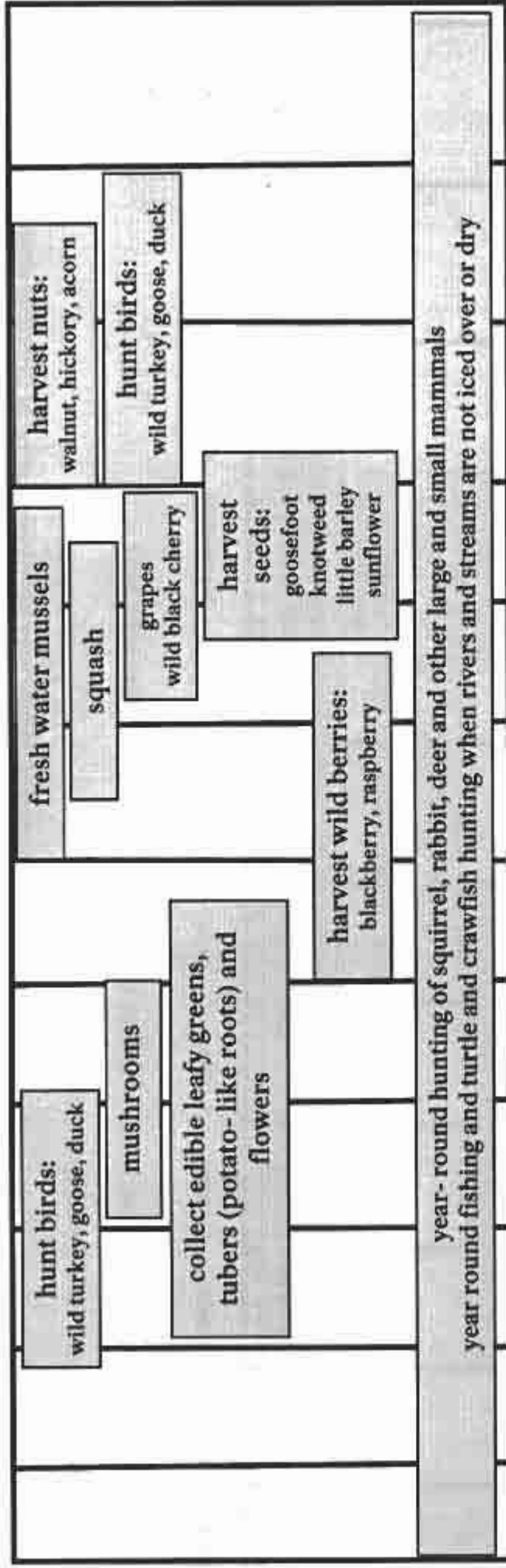
A popular plant today **sunflower, *Helianthus annuus***, was another of the oily seed plants cultivated by the Hopewell peoples. Sunflower seeds are crushed and boiled to extract a light oil. Seeds are also ground into a meal for cereal or flour.



Knotweed, *Polygonum erectum*, also has more protein than corn. High in nutritional value, this tasty tube-like root can be roasted or boiled. Very young tender leaves are cooked to be eaten as a vegetable or used to enhance soups or eaten in salads. Old hollow roots are prepared in a way we would prepare domestic rhubarb. Today a cousin of knotweed called smartweed can be seen along the trails at Mound City.

Supper, 2,000 Years Ago

What was on the menu for the Hopewell 2,000 years ago? Mussels and cherries? Fresh steamed fish on a bed of mushrooms and greens? On this time line, you can see what foods were available during different times of the year. How would you go about collecting and preserving these foods?



If you lived 2,000 years ago, would you be able to keep food very long? Why or why not?

How would you keep food for longer periods of times? drying, burying in storage pits, or smoking the food

Keeping in mind these ways of preserving food. Plan what a Hopewell family may have been eating at different times of the year. Prepare a meal for each day listed:

May
mushroom stew
with greens and
may grass

August
mussels
with squash and
blackberries

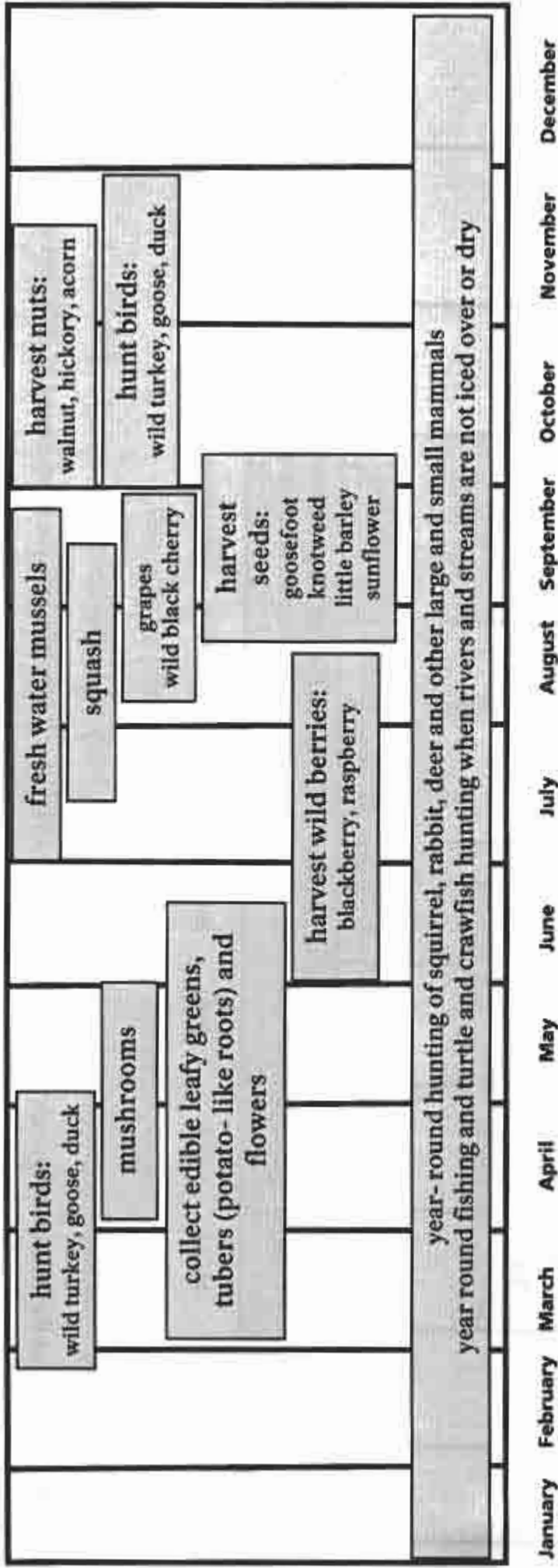
October
roast duck
with nuts and
goosefoot

December
deer with
acorn stew

Supper time, 2,000 Years Ago

What was on the menu for the Hopewell 2,000 years ago? Mussels and cherries? Fresh steamed fish on a bed of mushrooms and greens? On this time line, you can see what foods were available during different times of the year.

How would you go about collecting and preserving these foods?



If you lived 2,000 years ago, would you be able to keep food very long? Why or why not?

How would you keep food for longer periods of times?

Keeping in mind these ways of preserving food. Plan what a Hopewell family may have been eating at different times of the year. Prepare a meal for each month listed:

May

August

October

December

Travel or Trade?

➤ SUMMARY

Using a floor size map, students will determine where the Hopewell obtained the raw materials they used to craft pipes, projectile points, and other objects.

OBJECTIVES

At the end of this activity, each student should be able to:

- ◆ illustrate the span of the Hopewell influence by placing objects associated with these people on a map
- ◆ locate various points on a map and become familiar with a map key and compass rose
- ◆ graph the mileage of five raw materials from their point of origin to Mound City

BACKGROUND

The sphere of influence of the Hopewell culture stretched for hundreds of miles. The Hopewell sometimes used materials obtained from far away to craft objects they used everyday and objects used for special occasions. Some materials were found locally, such as flint and pipestone. Mica came from the Blue Ridge Mountains, 350 miles from here; copper from Lake Superior, and silver from Canada, both over 1,000 miles; and obsidian from Yellowstone and the Western Rockies, some 1,800 miles from here.

SUGGESTED PROCEDURE

1. Spread the map on the floor. Explain to students that the Hopewell not only built mounds, but they also created fine crafts and arts. Artifacts discovered under the mounds at Mound City by archeologists were made from materials exotic to Ohio. You are going to determine how people from the Hopewell culture obtained these exotic raw materials. Did they travel, trade or both 2,000 years ago?
2. Have the class determine the directions of North, South, East, and West by placing the compass rose on the map and labeling its directions. You may wish to lead a discussion of what landforms are on the map.
3. Pass around an effigy pipe and a flint projectile point and



- ◆ **Subject:** geography
- ◆ **Duration:** 40 minutes
- ◆ **Setting:** In classroom before or after a visit to the park
- ◆ **Materials:** Hopewell Culture's Living Map Kit*
Floor Space

Teacher Tip

*Contact Hopewell Culture National Historical Park and schedule a park ranger to present this activity to your students. All materials are included and there are no fees.

discuss how they may have been made. Tell students that a source of pipestone was in southern Ohio near Portsmouth, on the Ohio River. Using cooperative learning skills, have the students determine the approximate location of Portsmouth. Tell the students that a common source of flint was Flint Ridge. Have the students determine the approximate location of Flint Ridge on the map.

4. Repeat the process with the mica, copper, shells and obsidian. Mica comes from the Blue Ridge Mountains in North Carolina, copper from the Keweenaw Peninsula along Lake Superior, shells from the Atlantic and Gulf coasts and obsidian from the Yellowstone region of the Rocky Mountains.

ASSESSMENT

How Far to Yellowstone?

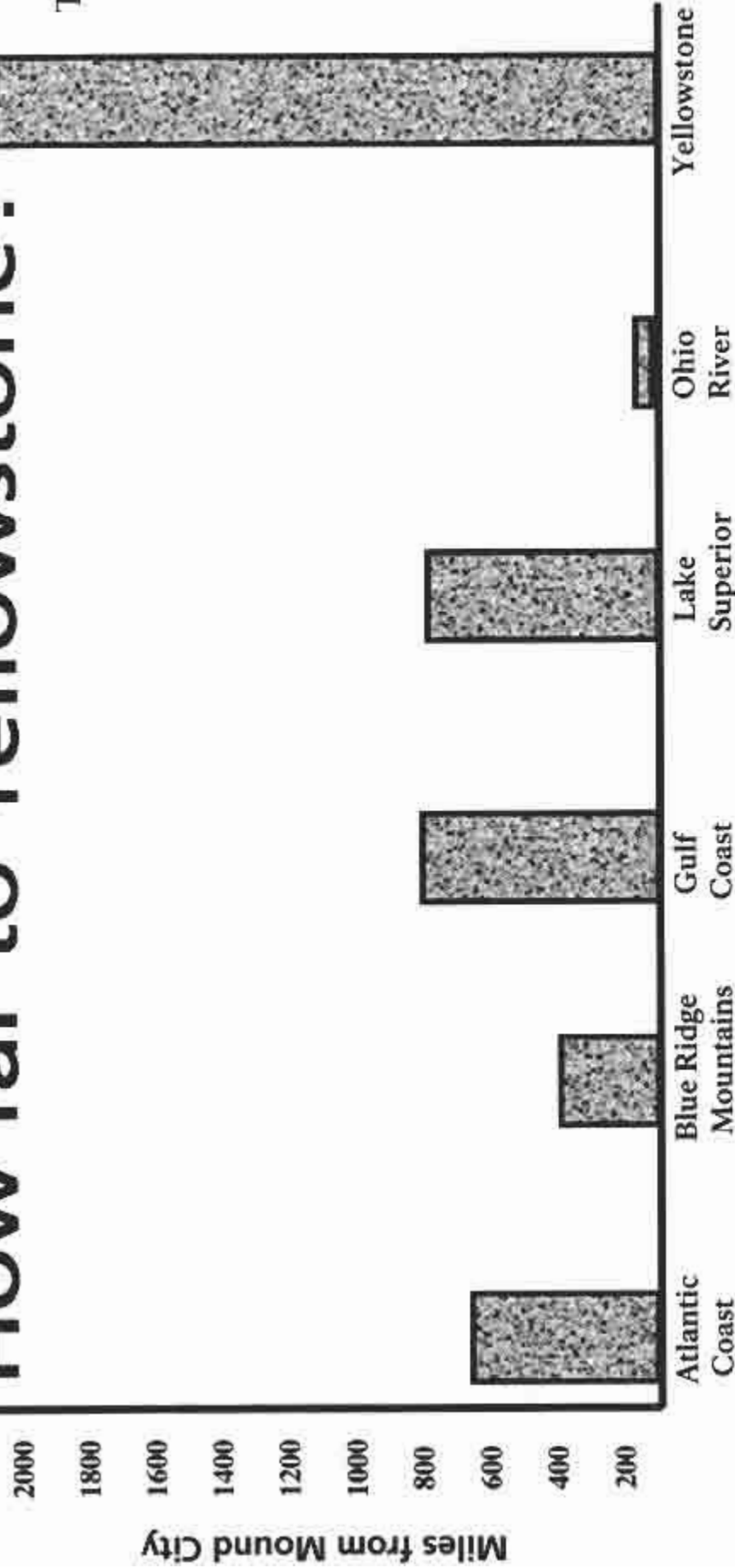
1. Review with students about the raw materials the Hopewell used in making their tools and arts. If possible, show the students some of the raw materials.
2. Have students determine approximate mileage to these places.
3. Have students fill in the distances that it took to travel to Mound City on the bar graph on the *How Far to Yellowstone* worksheet.
4. When students have completed the worksheet, lead a class discussion repeating the question asked at the introduction of the activity: Did the people of the Hopewell culture trade, travel or both to obtain their exotic raw materials?
5. Tell students that archeologists are unable to determine conclusively today which option the Hopewell chose. This subject remains a debate among researchers of the Hopewell culture.

EXTENSIONS

1. Schedule a park ranger from Hopewell Culture National Historical Park to present this activity. For more information call 740- 774- 1126.
2. Have students write biographies of a traveler during that time.
3. Have students list ways the Hopewell could have traveled to get to these places.

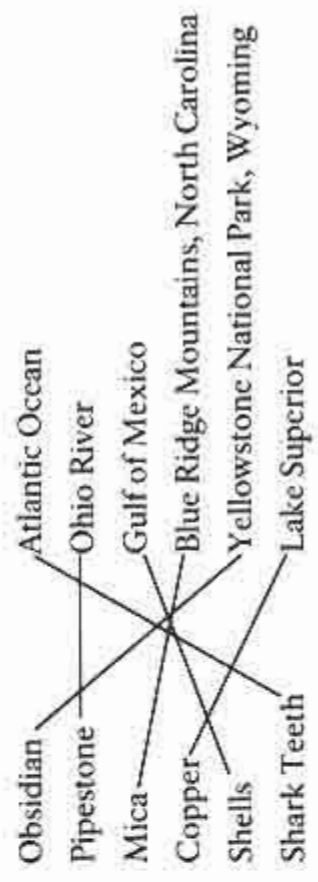
How far to Yellowstone?

Teacher's
Page

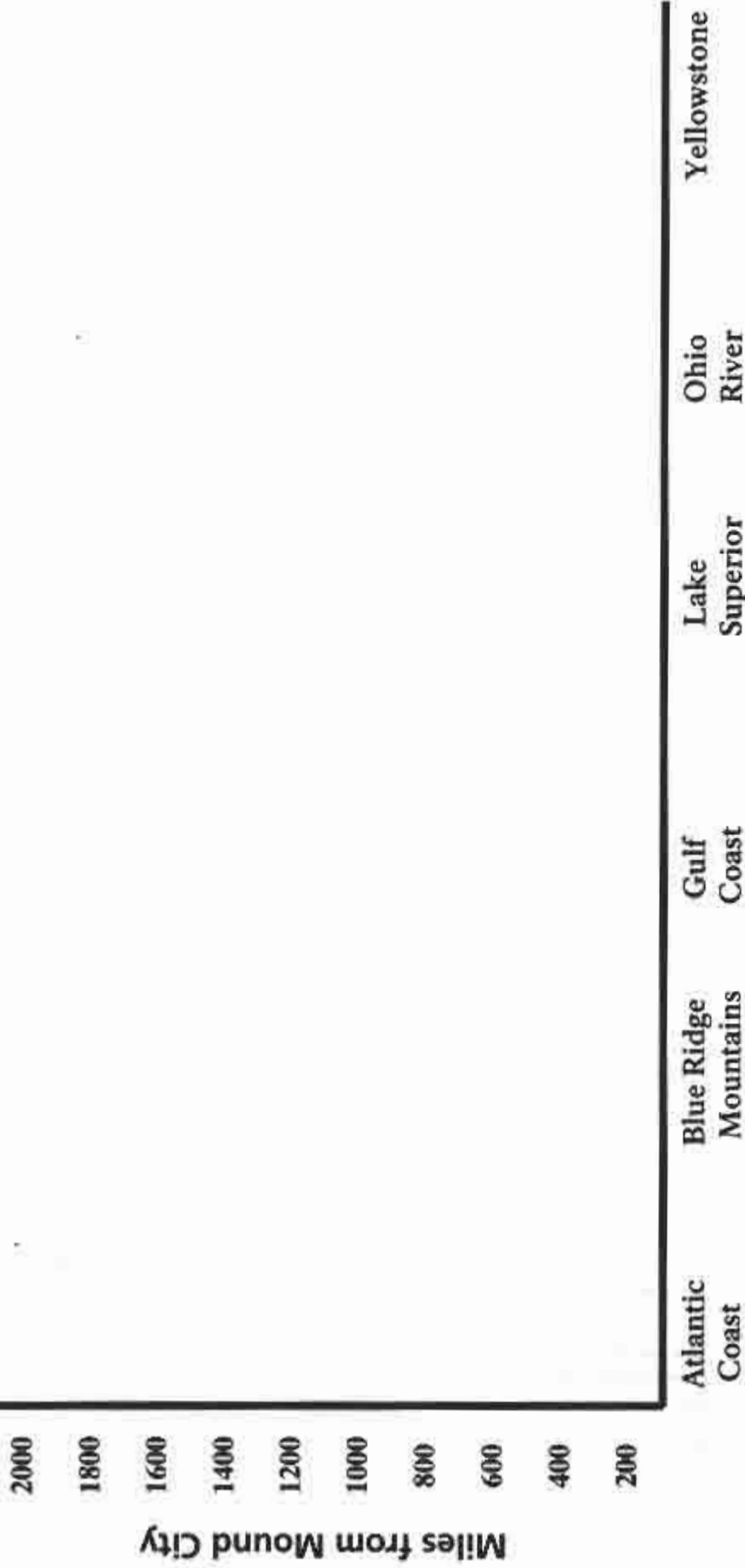


1. Fill in the bar graph above with the mileage for each of the locations using this list: 2. Draw a line connecting the raw material to its location.

- Gulf Coast.....770 miles
- Yellowstone.....1800 miles
- Blue Ridge Mountains.....350 miles
- Atlantic Coast.....600 miles
- Lake Superior960 miles
- Ohio River.....60 miles



How far to Yellowstone?



- Fill in the bar graph above with the mileage for each of the locations using this list:
- Draw a line connecting the raw material to its location.

Gulf Coast.....770 miles
 Yellowstone.....1800 miles
 Blue Ridge Mountains.....350 miles
 Atlantic Coast.....600 miles
 Lake Superior960 miles
 Ohio River.....60 miles

Obsidian	Atlantic Ocean
Pipestone	Ohio River
Mica	Gulf of Mexico
Copper	Blue Ridge Mountains, North Carolina
Shells	Yellowstone National Park, Wyoming
Shark Teeth	Lake Superior

Pots and Pieces

➤ SUMMARY

Students will make a pinch pot or a coil pot similar to those crafted by prehistoric cultures.

OBJECTIVES

At the end of this activity, each student should be able to:

- ◆ explain the importance of prehistoric pottery artifacts for archeologists
- ◆ illustrate two methods of pottery manufacture

BACKGROUND

Approximately 3,500 years ago pottery was introduced into what is now Ross County, Ohio during the end of the Archaic period. This early pottery was crudely made from clay with sand or grit temper. The surfaces of the pots were undecorated. The appearance of pottery may well have been one of the most important technological innovations in prehistoric North America, and it signals the beginning of what archeologists call the Early Woodland Period.

Woodland people gathered clay from natural field sources. Temper in the form of sand or grit was added to prevent cracking due to shrinkage. The clay was then used to make pottery vessels. Some pottery was decorated with marks made by pressing cords or fabric against the outside surfaces. Other pottery decoration included animal and symbolic designs incised (engraved) on the clay vessels with bone or stone tools.



Since the 1920's, when rigorous methods of analysis were first applied to ceramics, pottery has been one of the most useful tools for the archeologist. Why is this? Pottery once made and fired is virtually indestructible. Although pottery shards are fragile artifacts, pottery is easy to store, and sturdy relative to other types of materials. For these reasons ceramic analysis is the best tool that the archeologist has to describe cultural change. It is a valuable method of cross-dating sites that have been positively dated to sites which have no carbon-14, tree-ring or archeomagnetic data available.



- ◆ **Subject:**
culture
- ◆ **Duration:** 60 minutes
- ◆ **Setting:** In classroom before or after park visit
- ◆ **Materials:**
clay
containers for water
newspaper
plastic utensils
fork
sponges for clean-up
- ◆ **Optional Materials:**
Popsicle sticks
Sandpaper
Wrapped paddle
Comb

Teacher Tip

Consult the appendix for our suggested retail clay supplier.

SUGGESTED PROCEDURE

1. Using the background information, introduce Hopewell pottery to your students. After telling the students about pottery, pass out copies of the Duck Pot illustration to students. Instruct them to cut the pot into many pieces. Students will then trade their “broken” pot with their neighbor. When the pots have been traded, instruct students to put the pieces together again.
2. Ask students if they were successful in putting the pots back together again. Explain to students that archeologists also have the daunting task of putting prehistoric pottery shards back together again, except they are faced with many challenges like missing pieces, extremely fragile pieces or pieces of many pots piled together in the same areas.
3. Cover desk or table areas with plastic. Make sure the students have access to water. There are two methods for making pots, as follows:

A. Pinch Pot Method:

Begin with a small ball of clay (golf to tennis ball size). Punch your thumb directly into the center of the ball. Continue opening up the inside of the ball with your thumb, turning the ball continuously, striving to keep the sidewalls uniform thickness. Do not leave excess clay at the bottom. This will cause the pot to dry unevenly or crack. Using fingers, add moisture to the top edge if it begins to crack or dry too quickly. Refine wall thickness and exterior. Finish the rim by adding a coil around it. The rim does not have to be level to be successful.

B. Coil Construction Method:

Begin making coils by removing a golf ball sized clay lump from the storage container. Gently force the clay into long, round coils or “snakes.” Start with both hands together and gradually move hands apart, rolling clay continuously on a flat surface to achieve round coils. To avoid having the clay stick to the work surface, roll the clay on a course cloth or plywood. Coil diameter depends on wall thickness of the planned piece, but $\frac{1}{4}$ ” to $\frac{1}{2}$ ” is manageable. Be sure to make coils long enough so that the ends meet or overlap and do not have to be pieced with several additions. After making several coils, begin construction by making a small, flat patty. This becomes the platform or base. Be sure to place the construction on a portable work surface such as heavy cardboard, or plastic container lid so that it may be moved from work area to storage area, if necessary. Gradually add coils to create vessel height.



4. **Finishing Techniques:** While fingers are the very best pottery tools, other tools may aid in finishing. These scraping and smoothing tools include mussel and sea shells, eating utensils, and flat sticks. If necessary, lubricate the scraper with water. The paddle and anvil method is useful for consolidating wall thickness, outer vessel shape, and some exterior decoration. The anvil may be a rounded stone or mushroom-shaped ceramic form held against the interior surface. When using the paddle, a support (anvil) must be

provided from inside at the point where the paddle is struck. To keep paddle from sticking to moist clay, wrap paddle blade with string or cord. This will also provide interesting decorative patterns.

Surface treatment is a personal decision. Pots may be partially smoothed, slipped with contrasting color clays, carved, incised, or left to show some of the process of construction. When pots are leather hard, they may be polished with a smooth pebble, marble, or even a fingernail. When dry, they may be smoothed with a corncob or fine sandpaper. The pots should be allowed to become dry. If students are not firing the pots, apply acrylic Gesso to seal the surface.



Hopewell Effigy Pipes

➤ SUMMARY

Students experience carving their own effigy pipes out of Plaster of Paris.

OBJECTIVES

At the end of this activity, each student should be able to:

- ◆ define effigy
- ◆ demonstrate examples of Hopewell culture craftsmanship by designing and carving effigy pipes

BACKGROUND

Mound 8 at Mound City Group was excavated by Squier and Davis in the 1840's. Within that mound were found hundreds of pipes, all in pieces. A large number of pipes were also discovered at Tremper Mound in Portsmouth, Ohio. The pipes were both plain and carved into effigies (shapes) of animals and human heads. In both sites, these large amounts of pipes were found as part of "offerings" or "gifts" for burials made on the floor of the ceremonial structure.

Pipes were carved from pipestone, a soft limestone obtained from various areas including the Ohio River near Portsmouth, Ohio. Pipestone is very soft when it is mined, and can be easily carved. As the stone becomes exposed to air it becomes harder and more difficult to work. It was carved with stone tools such as sharp chert flakes, then ground and polished with leather and sand.

The Hopewell appeared to have smoked plant materials native to this area. To Native Americans today, pipes and the smoking of pipes has religious and social significance. The Hopewell too may have used the pipes for ceremonial and social purposes.



- ◆ **Subject:**
art
- ◆ **Duration:** 60 minutes
- ◆ **Setting:** In classroom before or after a visit to the park
- ◆ **Materials:**
water
plaster of Paris Mix
plastic knives
plastic to cover table or desks

Did You Know?

Most of the archeological collections acquired by Squier and Davis in their excavations, including the pipes from Mound City, were sold in 1864 by Davis for ten thousand dollars. They were purchased by William Blackmore of London. In 1924, the collection was purchased by the British Museum for four hundred pounds. The collection remains there today.

SUGGESTED PROCEDURE

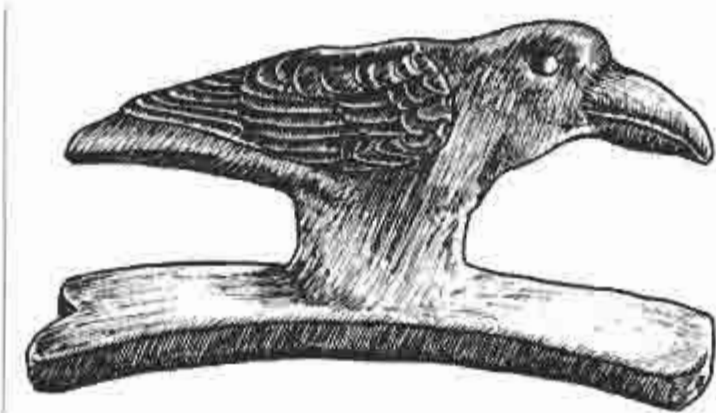
1. Mix Plaster of Paris according to package directions. Make it very soft, so students will be able to better carve the plaster.
2. Show the students pictures of pipes, telling what archeologists have learned about the pipes.
3. After the students have seen the pipes, give them the table knives, a chunk of plaster and cover their work station with plastic.
4. Ask the students to carve a pipe. It may be plain or fancy. If they choose to carve an effigy, choose an animal or shape that has meaning to them.
5. This is an activity that must be finished at one time. If the plaster is made too early, it will harden too much to carve. Stress to the students that their pipe cannot be used.

ASSESSMENT

1. When the students have finished carving, have them share their pipe with the class.
2. Alternatively, they may write a story about their pipes. Ask them if it was easy to carve the pipe. If they were a Hopewell, what would they have used to carve a pipe? What purpose did the pipes hold? Explain to the students that smoking probably had both ceremonial purposes and social purposes.

EXTENSION

1. Tip: Instead of plaster, you may want to try a soft soap or modeling clay.
2. Hold a Hopewell culture craft day to exhibit your students' work. Incorporate the finished products from other activities within this guide including *Pots and Pieces*, and *To Build a Mound*. The students could make clay pots as well as pipes. The interpretive staff of Hopewell Culture National Historical Park is available to assist in presenting these activities.



Map Quest!

➤ SUMMARY

Students will review historic maps made of an earthwork unit of the Hopewell Culture National Historical Park and then research and recreate an earthwork or mound of their choice.

OBJECTIVES

At the end of this activity, students should be able to:

- ◆ compare and contrast historic and modern maps made of Hopewell Mound Group
- ◆ draw conclusions from their observations of the maps
- ◆ research a mound or enclosure site and write a short report
- ◆ recreate a mound or enclosure site from materials available at home or in the classroom

BACKGROUND

Mounds have long fascinated scholars, residents and travelers the systematic study of Hopewell and other “mound building cultures” began in the 19th century, and was a start to the development of American archeology and scholarship.

Hopewell Mound Group is one of the more researched Hopewell sites. The Hopewell Site is located within the Central Scioto Region of Ross County, Ohio and covers about 150 acres managed by the National Park Service. The site sits on extensive areas of two terraces above the present active flood plain of the North Fork of Paint Creek. Early archeologists named the site after the landowner, Captain Mordecai Cloud Hopewell. The Hopewell site is the *type-site* for the Hopewell culture. This means that the Hopewell Mound Group contained significant remains that helped define the Hopewell culture.

Hopewell Mound Group has received much attention in the last 200 years. The mounds and earthworks have undergone three major episodes of excavation by well-known researchers, including Ephraim Squier and Edwin Davis in the 1840's, Warren Moorehead in the 1890's, and Henry Shetrone in the early 1920's. Caleb Atwater published the first recorded map of the earthworks in 1820. Looking back at the work of the researchers provides students with an excellent



- ◆ **Subject:** prehistory
- ◆ **Duration:** Time varies
- ◆ **Setting:** In classroom, prior to a visit to the park.
- ◆ **Materials:** pencil
paper
salt dough or clay*
*(see appendix for recipe and sources)

Teacher Tip

Contact Hopewell Culture National Historical Park and schedule a park ranger to present this activity to your students. All materials are included and there are no fees.

opportunity to understand historical perspectives of earthwork sites. This can be achieved by simply observing the maps that these researchers produced during their surveys and excavations at the Hopewell Mound Group.

The general form of the Hopewell Mound Group is that of a parallelogram, 2,800 feet long east to west and 1,800 feet long north to south. The south wall follows the edge of a terrace above the flood plain of the North Fork Creek. Squier and Davis estimated that the walls of the main earthwork were originally 35 feet wide at the base, and enclosed an area of 111 acres. A smaller square enclosure with sides 850 feet long was connected to the east side of the main earthwork. Remnants of the outer walls are visible today, and some are still intact and quite impressive. Two earthwork features are located within the parallelogram, one circular and one D-shaped. Three of the seven mounds in the D-shaped enclosure are joined together. Their original size is estimated to be 500 feet long, 180 feet wide, and 33 feet high. This is the largest known mound constructed by the Hopewell culture, and remains of it are still visible today.

Although Hopewell Mound Group has been heavily excavated in the past, the site still offers considerable potential for expanding knowledge about the Hopewell culture and is on the National Register of Historic Places. As more archeological research continues, more answers may be available about the Hopewell culture.

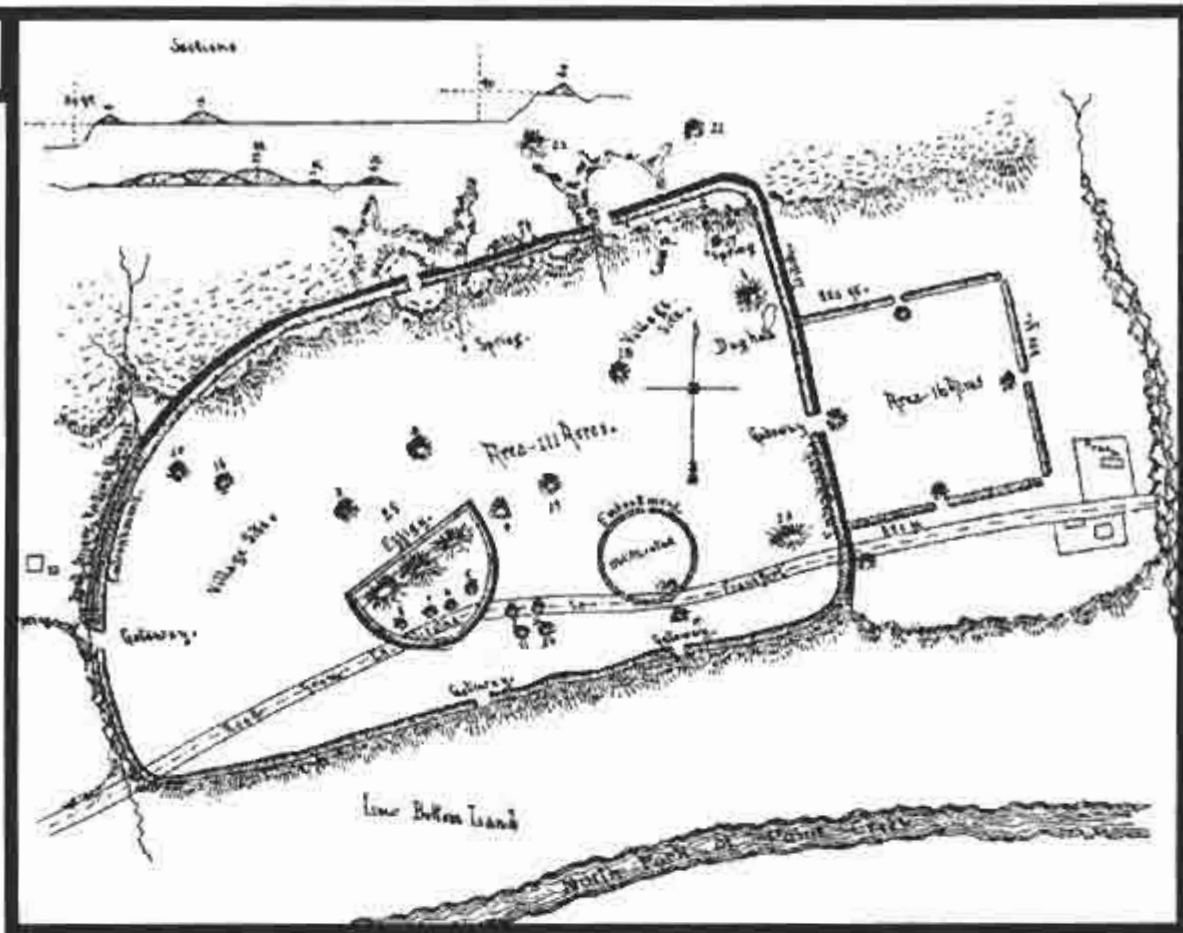
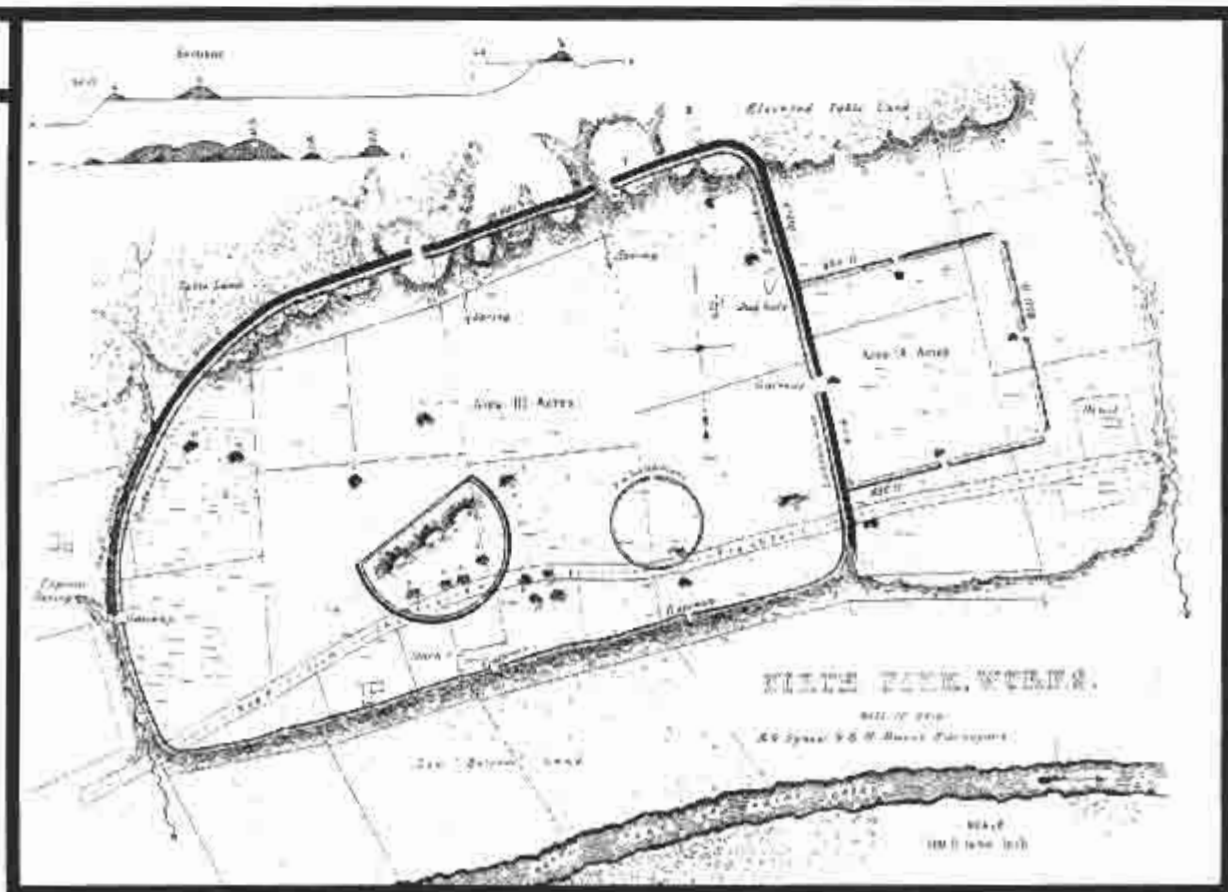
SUGGESTED PROCEDURE

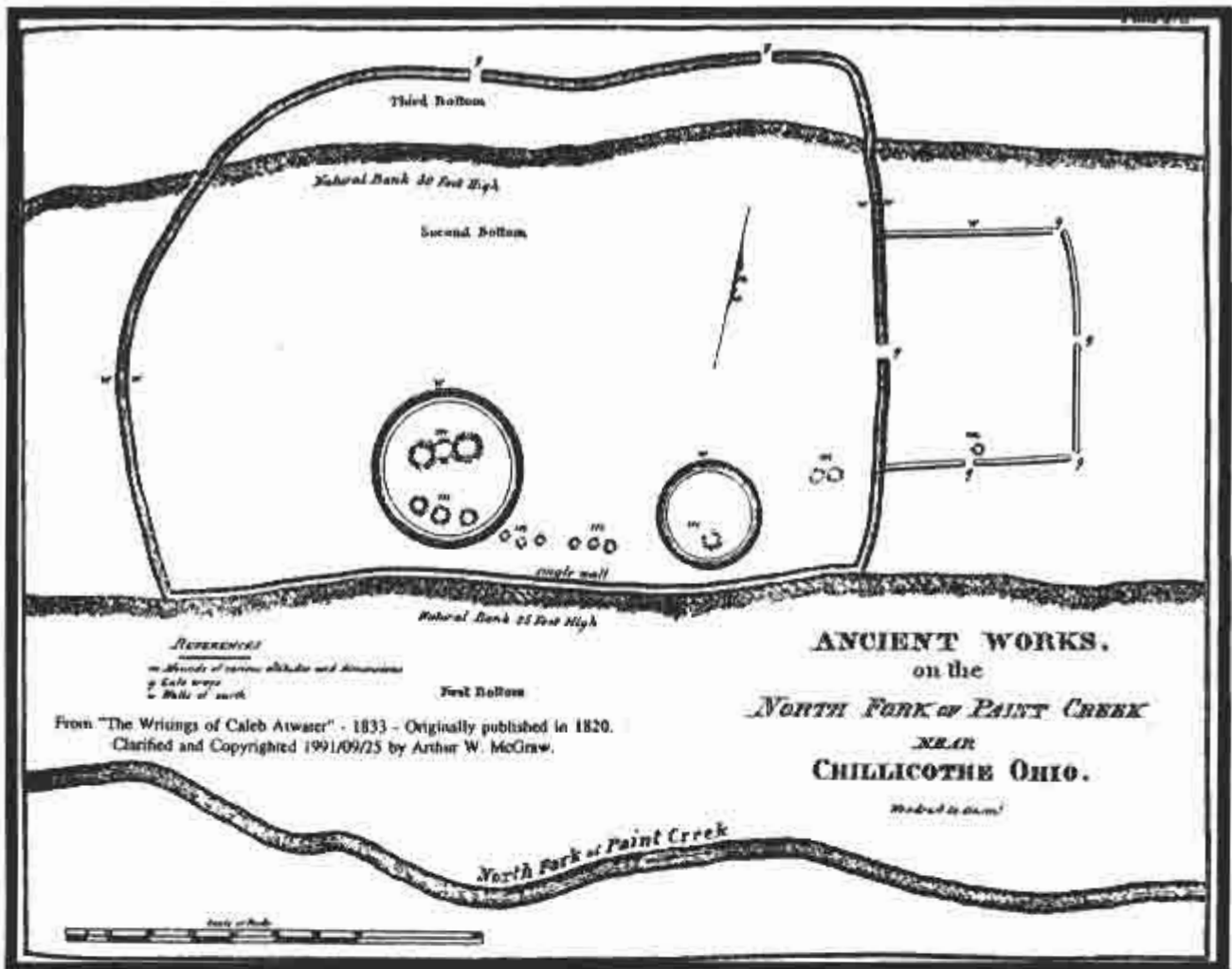
1. Either pass out copies of the maps of the Hopewell Mound Group or copy them to transparencies.
2. Map A - Warren K. Moorehead. His work at the site took place during 1891 but was published in 1922
Map B - Ephraim Squier and Edwin Davis, 1846.
Map C - Caleb Atwater, 1820
Map D - Henry C. Shetrone, 1922
Map E - Modern map of Hopewell Mound Group, drawn by Hopewell Culture NHP, 2002
3. Have the students compare maps noting any differences. Ask the students why there would be differences in the maps. For example, direct their attention to the names given by the researchers of the site or the shapes and quantities of mounds and enclosures. Remind the students that not only were the researchers drawing maps and surveys of the site but they were also excavating portions of the site as well.
4. Have the students indicate which direction is north and place a compass rose in the correct direction. Have the students locate the Hopewell Mound Group on a map of Ohio.

ASSESSMENT

To Build a Mound

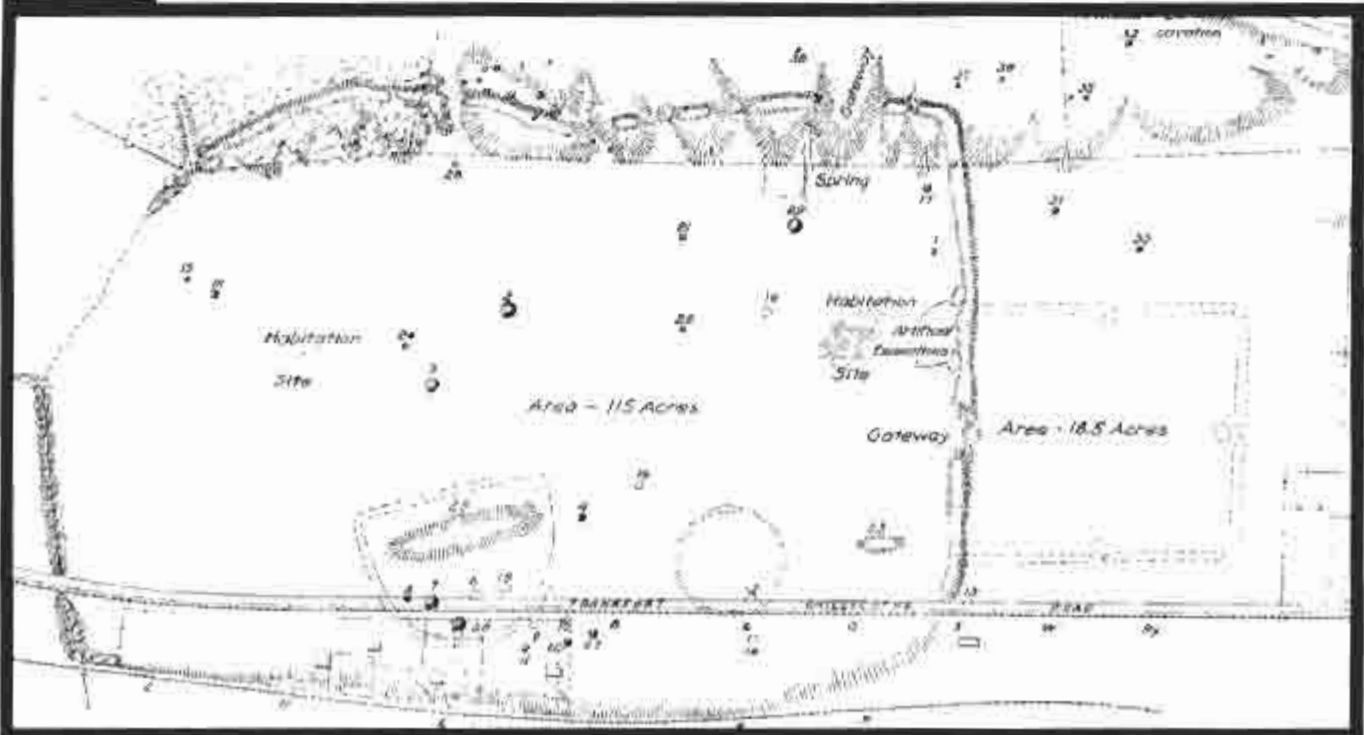
1. After learning about Hopewell Mound Group, encourage students to learn more about the other earthwork units in Hopewell Culture NHP: Mound City Group, Hopeton Earthworks, High Bank Works and Seip Earthworks, as well as other sites within Ohio. Students can select an earthwork to focus research and write a brief report.
2. After researching the earthwork or mound, students recreate it by building a model as a homework assignment. They may make the model out of salt clay (see appendices for recipe) mud, cotton balls or whatever material they have on hand.
3. If students are using historic maps as their guide for their model instruct them to cite the work they are using and not simply to copy the maps but to expand upon them using their knowledge of prehistoric Hopewell daily life. They should use such material as guides only and should include information that may not be contained on the map that they have learned through the course of study within this curriculum guide. For instance, if a student is recreating a Hopewell earthwork such as Mound City it would not be correct to have teepees as Hopewell dwellings included with the model, inaccurate portrayals of burials or tool use, or gardens containing corn or beans. However, a good model would include a scale map, drawn to the best of the student's ability, showing accurate placements of mounds, enclosures, etc. and should emphasize such things as the earthwork's placement near rivers and streams, and where a habitation area could be. The model should include properly referenced sources the student cited, including material gathered while visiting Hopewell Culture NHP.
4. The appendix contains resources to contact and find information for projects. The park rangers at Hopewell Culture NHP are available to assist with locating hard-to-find information. Teachers should consult with the student throughout the course of completing the project to make sure the students research goals are attainable and accurate.
5. Upon completion of the research report and model the student then presents his/her work to the class.

A**B**

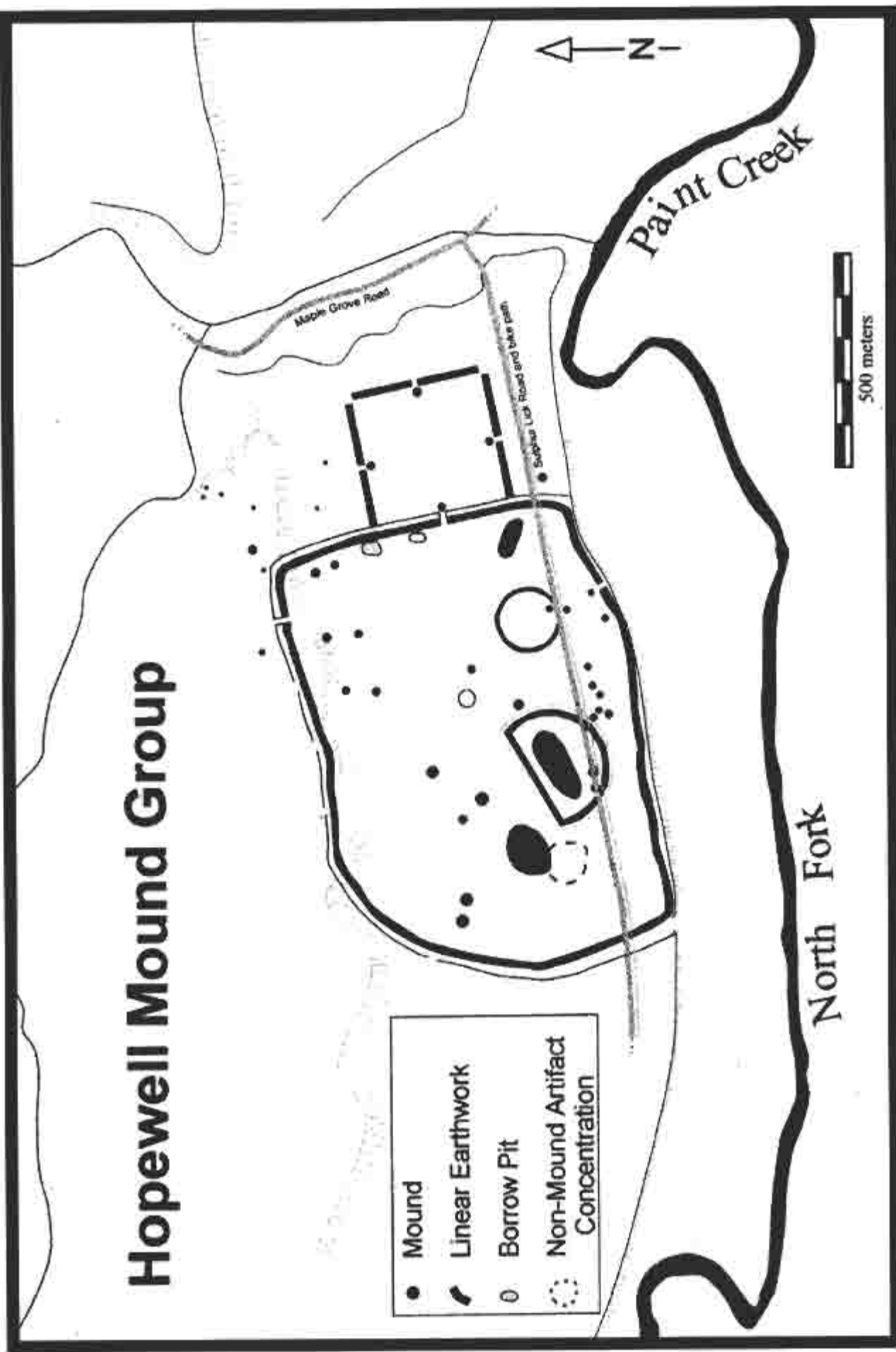


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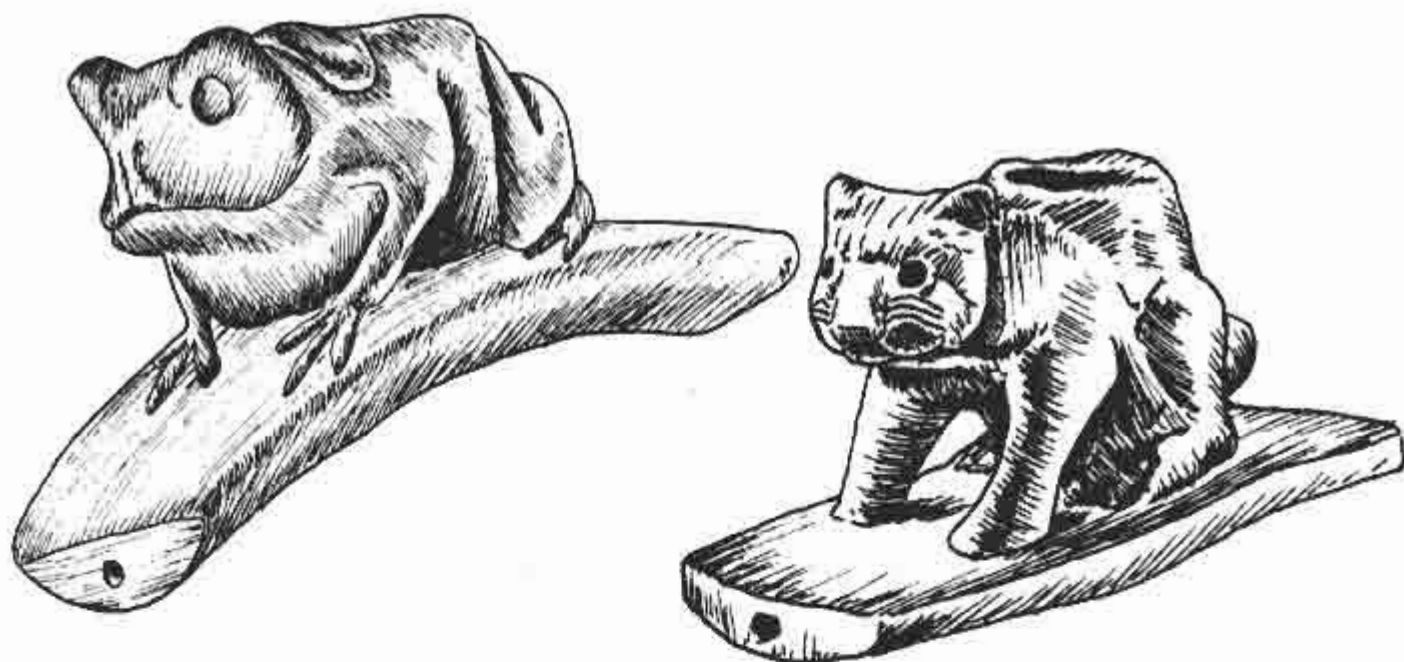
Hopewell Mound Group



- Mound
- ◌ Linear Earthwork
- Borrow Pit
- ⊙ Non-Mound Artifact Concentration

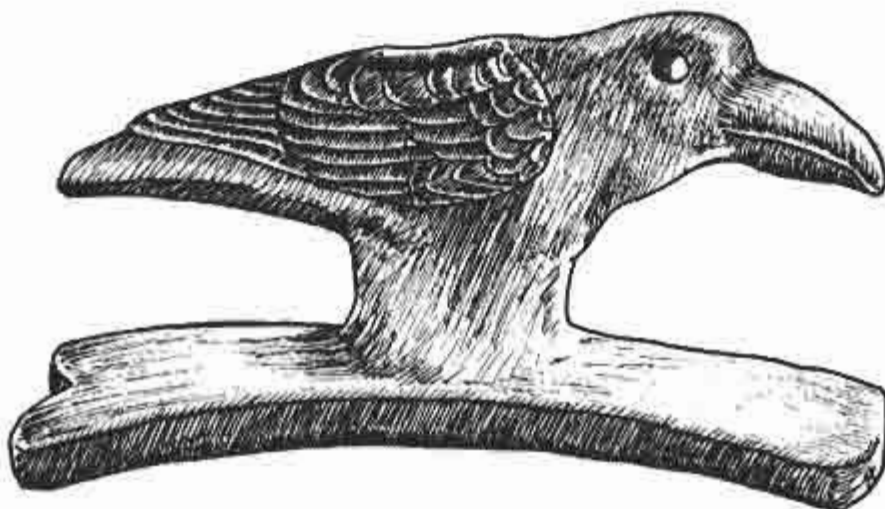
E

REMEMBERING THE PAST



PIPES

Two types of platform pipes were produced by the Hopewell people: a plain platform pipe with a cylindrical bowl, and an effigy platform pipe with a bowl carved in the shapes of animals and human faces. In each case, a hole was drilled from one end of the platform into the bowl to form the stem of the pipe. In addition to their aesthetic qualities, the detailed effigy pipes provide insight into the ceremonial life of the Hopewell people and the animals they admired. Effigy pipes are also of interest to researchers because they provide evidence of the existence of these animals during the Woodland period.



Why is the Past Important? Part Two

➤ SUMMARY

After visiting Hopewell Culture NHP students will share with their classmates the valuable aspects of the park and illustrate why we should preserve archeological sites.

OBJECTIVES

At the end of this activity, each student should be able to:

- ◆ recognize and identify valuable aspects of Hopewell Culture National Historical Park
- ◆ create persuasive posters or pamphlets to foster awareness and preservation of prehistoric sites

BACKGROUND

Earthwork enclosures and numerous sites are damaged or destroyed every day by the constant expansion of our cities, highways, and industries. Some students may not realize that they live or go to school near the site of a prehistoric earthwork, or where people once lived. Preservation is defined as maintaining something in safety from injury, peril, or harm. Sites such as Mound City deserve protection. If the sites were gone, people would have a hard time learning about the past. Imagine trying to teach students about the prehistoric Hopewell Culture without being able to visit earthwork sites like Mound City or to see pictures of mounds in their textbook. It would be very difficult for the students to understand.

Hopewell Culture National Historical Park is many things to many people: an escape from their urban habitat, a place to photograph or hike, a place for bird watching, a place of beauty, a place to see plants and animals native to Ohio. Encouraging students to discover what they value in Hopewell Culture NHP is a first step toward a commitment to preserving this part of our cultural and natural resources. Therefore, students and citizens of the United States can make a difference. Learning about the past, telling others about it, reading books about the past, and taking trips to sites is an important key to keep preservation alive and continuing.



- ◆ **Subject:**
science
preservation
- ◆ **Duration:** 45 minutes
- ◆ **Setting:** In classroom
after a visit to the park
- ◆ **Materials:**
3 x 5 index cards
pencils
masking tape

Did You Know?

Hopewell Culture National Historical Park was established on May 27, 1992 by a law that renamed the Mound City National Monument, expanded the Hopeton Earthworks unit, and authorized the acquisition of three additional Hopewell sites: High Bank Works, Hopewell Mound Group, and Seip Earthworks.

SUGGESTED PROCEDURE

1. Instruct the students to draw (from memory) and label a favorite mound, artifact, or activity (nature hike, ranger tour, etc.) common to Hopewell Culture NHP on a 3 x 5 card. Do not inform students what is intended by this activity.
2. Tell the students to label their drawing and write below the drawing a few words to describe why they chose it.
3. Ask students to tape their 3 x 5 card on their shirts, and allow them time to wander around reading each other's cards.
4. Re-assemble students into a large group, and begin a discussion. Ask students to identify the purpose of the activity. Compare/contrast the various values which students have described on their cards. Ask students to draw conclusions based on the described values.

ASSESSMENT

1. Instruct students to write a short essay on this activity, summarizing what they have learned about values. Ask students to identify ways of preserving their own values concerning the environment.
2. Students can design posters or pamphlets using pictures from a magazine or actual photographs. The message on the poster or pamphlet should promote preservation by explaining why the site deserves protection.
3. Students may share publication with the class and explain why they chose certain pictures and messages.

EXTENSION

1. Send completed essays to Hopewell Culture National Historical Park. The essays will serve as feed-back for the rangers and staff of the park. This is a great way to inform the staff of Hopewell Culture NHP. how the students benefited from their visit!
2. The park is always looking for school aged children's work to be published in the park's newsletter. Send work to:

Hopewell Culture NHP
Attn: Park Rangers
16062 State Route 104
Chillicothe, OH 45601

Write of Passage

➤ SUMMARY

Students will write on one of various themes on the Hopewell people and associated archeological resources.

OBJECTIVES

At the end of this activity, each student should be able to:

- ◆ explain why archeological resources are valuable to his or her own personal world
- ◆ demonstrate creative writing skills with the writing of short stories

BACKGROUND

Students should have read the introductory reading *Ohio's Prehistoric Past* and have completed activities from previous sections.

SUGGESTED PROCEDURE

After visiting Mound City Group at Hopewell Culture National Historical Park (or after reading about the Hopewell in class) choose one of the following suggestions for writing activities:

- ◆ Encourage students to write a persuasive letter to the editor of your local paper explaining why it is important to save Native American burial sites such as Hopewell Culture National Historical Park.
- ◆ *Hopewell Trade and Travel*: Did a Hopewell person travel to obtain the material from its source or trade with someone else? What was the material used for? Select one raw material the Hopewell people brought to the earthworks and used (mica, obsidian, copper, etc.) Create the sequence of events that brings the material to its final resting place at Mound City Group (or any other known Hopewell site).
- ◆ Have students write the story of a prehistoric Native American traveling to the mounds at Mound City. Please keep in mind that it probably wasn't called Mound City at the time of the Hopewell.



- ◆ **Subject:** writing
- ◆ **Duration:** 60 minutes
- ◆ **Setting:** In classroom, after a visit to the park
- ◆ **Materials:** pencil, paper

Did You Know?

Annually, Hopewell Culture National Historical Park reaches nearly 8,000 students annually: approximately 5,000 visit the park's visitor center and 3,000 are visited by park rangers in their classroom.

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- ◆ *Tales from the Trash Midden* You are an artifact in a prehistoric trash midden: Describe what kind of artifact you are (potshard, shell, fire cracked rock, spear point, etc.). Describe your surroundings including what you see, feel and smell. How were you used before you were deposited in the midden? Describe the trip to the midden. What is your ultimate contribution to society? Are you helpful to scientists?

ASSESSMENT

Have the students share their stories with each other.

Ask the students to discuss with the class why they selected particular themes and details in their stories.

EXTENSION

When the students have completed the activity, mail the stories to the park. We will display them in the Mound City visitor center, or publish them in the park newsletter.

Short Stories in Archeology

➤ SUMMARY

Students will choose aspects of Hopewell mound building and daily life as subjects for writing short, creative stories.

OBJECTIVE

At the end of this activity, each student should be able to:

- ◆ demonstrate creative writing skills with the writing of themed short stories

BACKGROUND

Students should have read the introductory reading *Ohio's Prehistoric Past* and have completed activities from previous sections.

SUGGESTED PROCEDURE

1. After visiting Mound City at Hopewell Culture National Historical Park (or after reading about the Hopewell in class), explain to the students that they will be writing a story about a mound of their choosing.
2. Distribute a copy of *Short Stories in Archeology* to each student. They will use this worksheet as an outline for writing their final story.
3. The worksheet has labeled sections (see reproducible worksheets in appendices) in order to help them organize their thoughts. Review each section with your students. Encourage the students to be both accurate and creative. If students chose an existing earthwork, their information must accurately describe the earthwork to the best of their ability.
4. Directions for the worksheet: *Short Stories in Archeology*
Identification: name or number that archeologists have given the mound, if known
Location: mound's location (e.g. Mound City)
Age: age of the mound. Use the age of the culture that built the mound. For example, if the student has selected the central mound at Mound City then the age would be about 2,000 years old - the age of the Hopewell culture, that built the mound.



- ◆ **Subject:** writing
- ◆ **Duration:** 45 minutes
- ◆ **Setting:** In class, after a visit to the park
- ◆ **Materials:** Copies of *Short Stories in Archeology*

Teacher Tip

Keep students focused during their field trip. Require students to complete this activity during a field trip to Hopewell Culture National Historical Park.

Characteristics: what particular details distinguish the mound or earthwork from others

Artifacts: what, if anything, was found under the mound

Burials: how many burials, if any, were found under the mound. Please note that not all mounds contain burials.

Builders: describe who constructed the mound, and tell what you know about the people

Why I chose this mound: student explains why he/she selected the particular mound

Illustration: draw a picture of the mound. If students choose an actual mound at Mound City, they may refer to the Hopewell Culture National Historical Park brochure for placement of the mound.

5. After the students have filled out the worksheet they are to write the information in essay form, revising and sharing the information with classmates and others.

ASSESSMENT

- ◆ Have the students share their stories with another student or with the class.
- ◆ Ask the students to discuss with the class why they selected that particular earthwork.

EXTENSION

As an alternative, use a Hopewell or Adena site nearest your school for this activity.

When the students have completed the activity, mail the stories to the park. We may display them in the Mound City visitor center, or publish them in the park's newsletter.

Short Stories in Archeology

Identification: _____

Location: _____

Characteristics: _____

Artifacts found at the mound (draw pictures if they are helpful): _____

Burials found under the mound (keep in mind that not all mounds contain burials):

Builders of the mounds: _____

Why I selected this mound: _____

Illustration of my mound:

Issues in Archeology Conservation

➤ SUMMARY

In their study of archeological resource conservation, students will work in groups using the following analogies and dilemmas to decide and justify the best way to deal with the problems of resource depletion.

OBJECTIVE

At the end of this activity, each student should be able to:

- ♦ examine their own values and beliefs about archeological site protection
- ♦ evaluate possible actions they might take regarding site and artifact protection

BACKGROUND

Our nation's archeological sites are being destroyed at an alarming rate. As a result, scientific information is destroyed, the places where people lived long ago are aesthetically compromised, and Native Americans lose an important part of their heritage. This lesson encourages students to examine personal beliefs and feelings concerning the protection of archeological sites and artifacts, to decide what action they would take in difficult situations, and to suggest solutions to the widespread problem of archeological resource destruction. There are no "right" or "wrong" answers except where laws apply. The lesson should be taught after the students have established a foundation in archeological concepts and methods.

Federal and state antiquities preservation laws state that it is illegal to loot, deface, injure, or excavate sites and artifacts older than 100 years on public land (see the ARPA law). Public land includes lands administered by any state or federal agency, such as the Bureau of Land Management, National Park Service, Forest Service, Bureau of Reclamation, and the Fish and Wildlife Service. States may have additional laws to protect antiquities. Archeologists conducting approved field work are granted permits by federal and state agencies.

People enjoying recreation out - of - doors frequently discover an archeological site or artifact. By law on Federal land, the artifact is to be left in place, and the site left undisturbed. Removal of artifacts is theft. Discoveries of rare or remarkable



- ♦ **Subject:** preservation history
- ♦ **Duration:** 20 minutes
- ♦ **Setting:** In class, after a visit to the park
- ♦ **Materials:** Copies of dilemmas for each group or student

Did You Know?

Along with trowels and shovels, archeologists are now using fluxgate gradiometers, magnetometers, and other non-destructive tools, to learn more without causing further damage or loss of prehistoric sites.

artifacts and sites should be reported to the land managing agency, or, in the case of private lands, to a local agency archeologist or the State Historic Preservation Office.

Some people collecting artifacts and excavating sites are engaged in an illegal market, have weapons, and should be considered dangerous. Students should never approach someone they see collecting artifacts or excavating archeological sites. The best thing to do is to record information about the people: their physical description, what they were doing, the license plate number of their vehicle, and immediately report to law enforcement authorities. The Archaeological Resource Protection Act allows for rewards for those providing information that leads to the arrest and conviction of people disturbing sites.

This activity allows students to explore their values about conservation issues and make comparisons about the value and protection of archeological sites and artifacts.

SUGGESTED PROCEDURE

1. The following activity sheets describe hypothetical situations concerning artifacts, archeology and the environment. Following the description of the dilemma there are questions which help clarify the issues raised. At the end of the dilemma students are asked to make a final decision in response to the problem.
2. Make clear to the students that there are no right or wrong answers in the final decisions. Encourage students to explore positive options or win-win solutions. Students should make their decisions after fully discussing the alternatives and the issues involved in each problem.

Ways to Use the Activity Sheets:

1. Group Work

- ◆ Divide the students into smaller units of four to six individuals and give each person an activity sheet.
- ◆ Each group can deal with a different dilemma, or two or more groups can work on the same dilemma.
- ◆ Instruct students to read the problem and then write down their responses to the questions included on the activity sheet.
- ◆ After students respond to the questions on the activity sheet, they then discuss all the questions as a group. The whole group should then reach a consensus for the final decision.
- ◆ Give the groups about 30 minutes to work on their dilemmas, then gather all groups and allow each group to present their dilemma and final decision to the entire class. They can also discuss some of the arguments they considered in reaching their final decision.

2. Role Play:

- ◆ Divide class into small groups of four to six students and assign dilemmas to each group.
- ◆ Instruct students to role play a position. For instance, in the *Building for the Future*

dilemma, one person can assume the role of the farmer who owns the land, another can represent the Acme Motors Company, and one person can assume the role of a historical society member.

- ◆ After 30 minutes of group work, the students can present their dilemmas to the rest of the class. You can also have the students role play the positions in front of the rest of the class, which can then reach a final decision based on the arguments presented. Keep in mind that win- win situations are possible and positive results for both sides can be achieved.
3. Have the entire class read and discuss the dilemmas and questions. Each student can write a final decision on paper and submit it.
 4. Small groups or the entire class can engage in a debate over a question in any problem, or the final decision of any problem. For instance, the class can divide into pro and con sides which will debate the final decision in *Grandpa's Mounds*. The class can debate the advantages of living in 197 A.D. vs. the present day in *A Fantasy in Time*.

ASSESSMENT

1. Ask the students to share their overall position concerning the protection of archeological resources. Ask them to create a symbol, story, poem, drawing or song that summarizes their opinion.
2. Evaluate student participation in the dilemma discussions and closing activities.

EXTENSIONS

1. Have students develop their dilemma solutions into plans that would address who, what, when, where, how and why.
2. Have students develop and address different dilemmas than those included in this activity.

The Case of “Bronze Disease”

While looking at some prehistoric artifacts in a local historical museum, you notice that some of the copper artifacts have a suspicious looking white powder on them. You also notice a piece of fabric adhering to a copper artifact which looks faded from the exhibit lights. The fabric is tattered and looks as if threads have fallen to the bottom of the case.

You find the museum curator and point out what you have seen. The curator is somewhat surprised at your observations because he/she had not noticed these things before. The curator explains that the white powder on the copper artifacts is probably bronze disease, a reaction which can eat holes through the metal. This chemical reaction occurs when copper artifacts are quickly exposed to air after excavation, causing unstable cuprous chloride, then deterioration due to the bronze disease can begin. The museum curator goes on to explain there are ways to check the disease, but the artifacts must be kept in a low humidity environment. You notice that the cabinets in which these artifacts are stored appear to be poorly made, with cracks at the edges. They also use normal light bulbs in the cases.

Questions:

1. Should you be concerned about the care these artifacts are getting?
2. Do the exhibit cases provide adequate protection for the artifacts? What could be done to improve them?
3. Should artifacts be put on public display when doing so will increase their deterioration?
4. Should we try to save all artifacts from deterioration? What are some of the problems involved?
5. What is the value of artifacts such as these?
6. Should anyone be allowed to handle an artifact? Why?
7. Is the curator at fault for the condition of the artifacts?
8. Should the artifacts have been left in the ground?

Final Decision:

How should the curator address the condition of the artifacts in the museum?

Grandpa's Mounds

You are aware of several prehistoric mounds which exist in the woods on your grandfather's property out in the country. As far as you know, they have never been excavated by archeologists or dug up by anyone else. Your grandfather has never really shown an interest in the mounds until recently. He asks you if he should do anything about them. He mentions that he does not plan to clear the area for farming, and does not foresee any other way the mounds would be disturbed in the future.

Questions:

1. Should you tell anyone else about the mounds? What are some of the advantages and disadvantages of doing so?
2. How do you think the local historical society might feel about the mounds?
3. What might the archeologists at Hopewell Culture National Historical Park say about these mounds?
4. How might a group of Native Americans residing in the area feel about the mounds?
5. Would your advice to your grandfather change if the mounds were on property in which he was planning to sell for a housing development?
6. What options are available to make sure that the mounds are preserved?
7. Should the mounds be excavated?

Final Decision: What do you tell your grandfather? Why?

Looting

You are out hiking on private property when you come upon two people who are digging in a mound of earth. You notice that more than just dirt is being removed from the mound. You see bones, metal objects, shiny pieces of mica, and other items being put in a sack. The two people are arguing over who should get to keep one of the objects which looks like a stone pipe.

Questions:

1. What are your feelings when you discover these two people?
2. One of the individuals offers you a six- inch obsidian spear point from the mound in exchange for not telling anyone what you have seen? Do you accept the offer?
3. The objects that the people are removing from the mound could be over 2,000 years old. Who really owns the mound and the burials and artifacts within them?
4. Would your feelings about the situation and your course of action change if the mounds were on a National Park Service site?
5. What would happen if you reported what you saw?
6. What historical information may have been lost by the looters digging in the mounds?

Final Decision: What will you do about the situation?

The Discovery

You are out hiking in the woods on private property. You come across an area that is covered with flint chips, pottery shards, and bones.

Questions:

1. What do you think these objects are from?
2. What would the value, or significance, of the objects be to you?
3. How would an archeologist view the value, or significance, of the objects?
4. You are curious if you can find anything else and would like to dig deeper into the soil. Is this a good idea? Why or why not?
5. What should you do if you find these things on property owned by the Federal Government?

Final Decision: What are you going to do about this discovery?

A Fantasy in Time

You are a Native American from 200 B.C. who has been able to slip through time to the present day. You find yourself floating on the Scioto River in a canoe and realize that your surroundings have changed since the year 200 B.C.

Questions:

1. Describe in detail the things that have changed. Consider the plants, animals, the river, the air (the overall environment). Have your sacred earthworks changed?
2. How do these changes make you feel? Are all the changes negative ones?
3. What are some of the causes behind these changes?
4. Do you want to return to the year 200 B.C. or would you like to remain in the present day? Why?
5. Could the people of the last 100 years have changed the way things are in the present day? What could they have done differently?

Final Decision:

Should the 20th century people have allowed all these changes to occur? Be specific.

Survival in the Wild

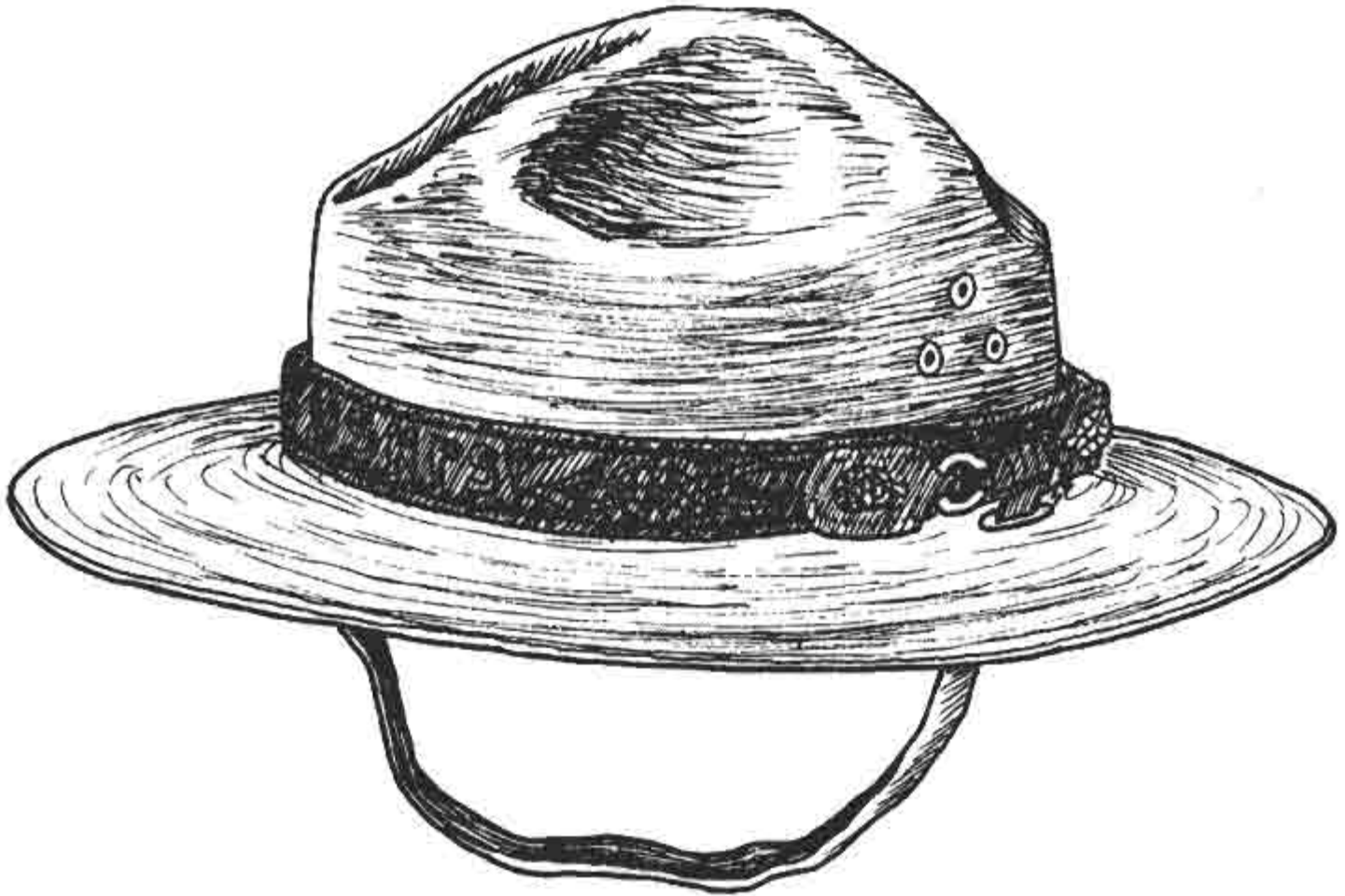
You awake one morning and find yourself in a wooded area along the bank of a rock-filled river. A check of the area reveals that no one else is living in the area. There are no buildings, no stores, no signs of civilization as you know it. All you have with you is a book for identifying plants. In order to survive you will need to provide food, tools and shelter for yourself using the things that nature provides.

Questions:

1. Shelter will be your first concern. What materials are available to you and how will you obtain them?
2. What water sources are available to you? Is the river important to your survival?
3. Hunting may be one way of obtaining food. What hunting methods are available to you? How will you create tools or weapons?
4. Describe how you could store food for use at a later time?
5. You have decided to grow your own food. What plant seeds are available to you? What tools will you need to prepare a garden?
6. How does survival in a river valley compare to survival in other areas like the desert?

Final Decision: What skills do you need to develop in order to survive in the wild?

APPENDIX

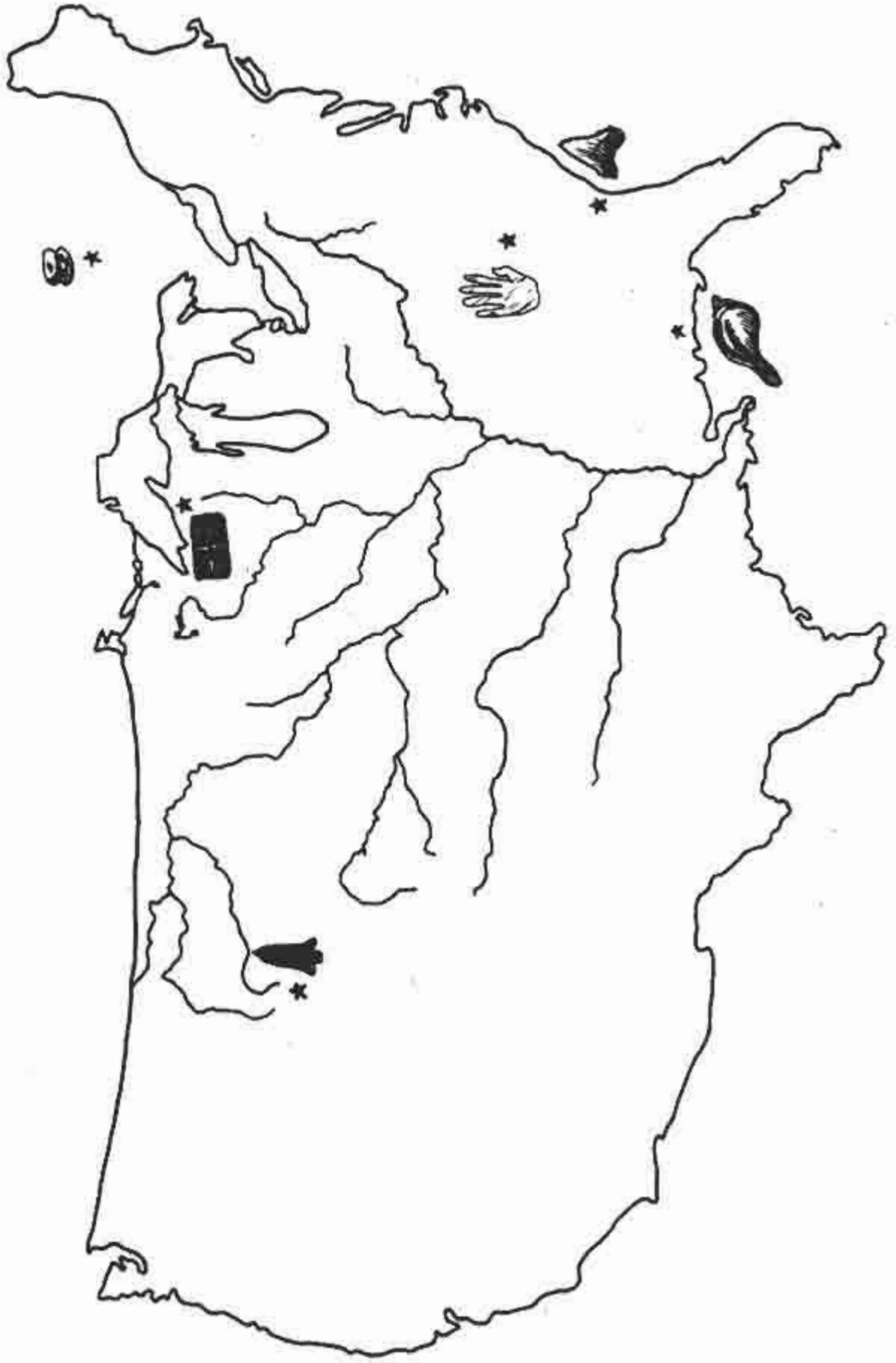


"Nothing symbolizes the National Park Service more than a ranger in a "flat hat." Like a park ranger beginning a career, full of hope and expectation, her Stetson hat is new, clean, and fresh. By career's end, both have become veterans-frayed and worn by age and trial, but truly reflecting accomplishment and experience."

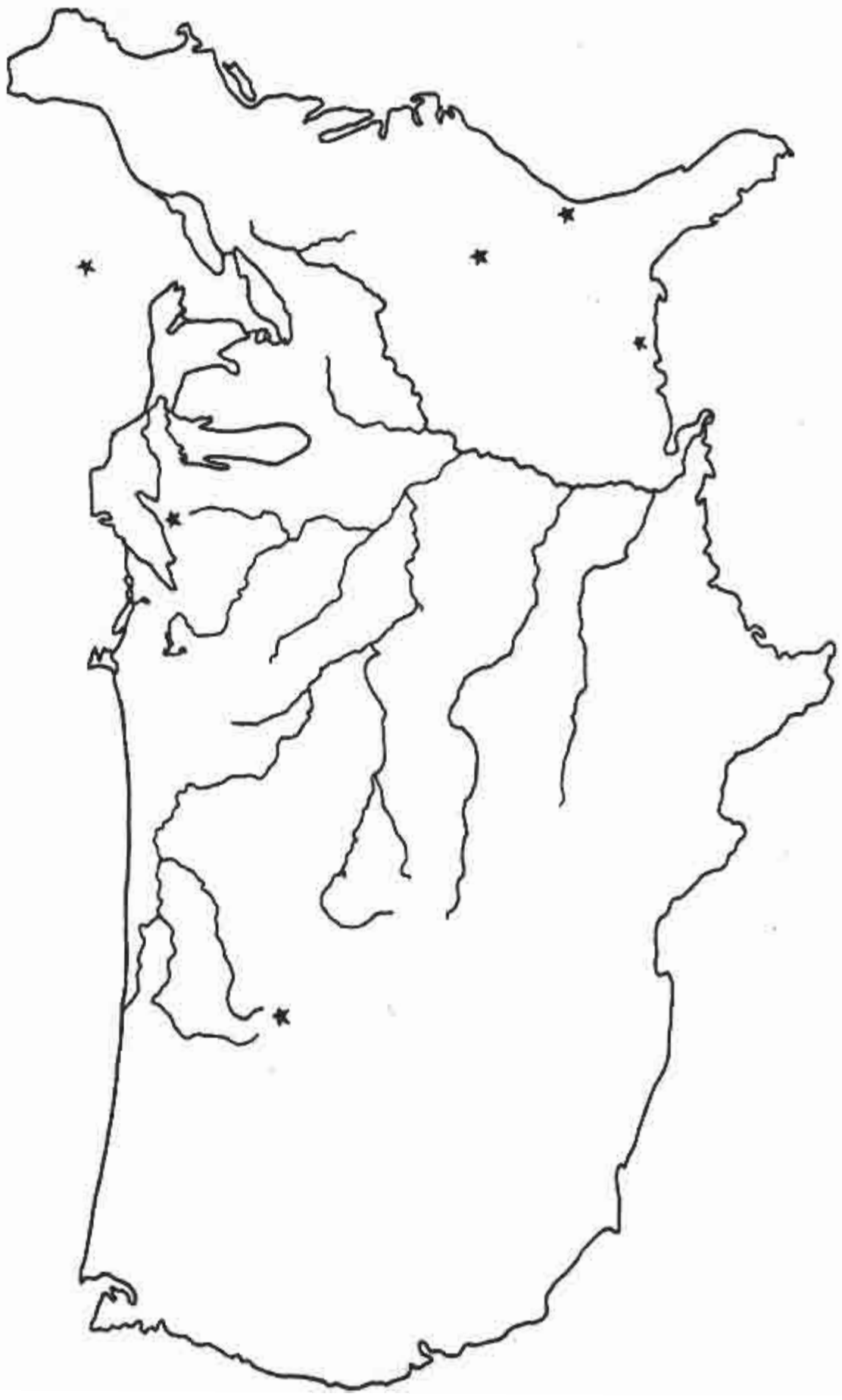
-National Park Ranger: An American Icon by Charles Farabee Jr.

Hopewell Culture Trade and Travel Routes

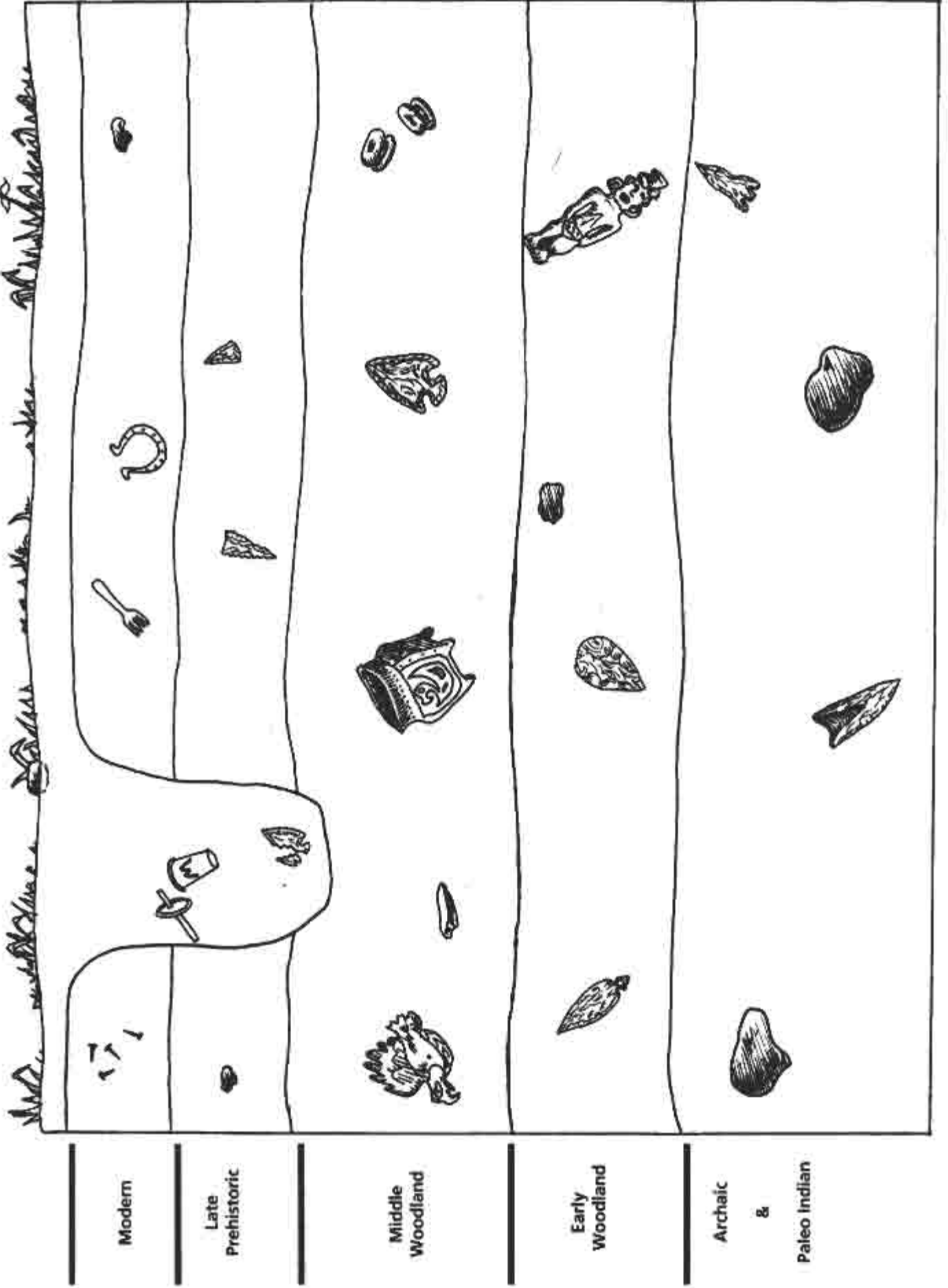
Teacher Page



Hopewell Culture Trade and Travel Routes

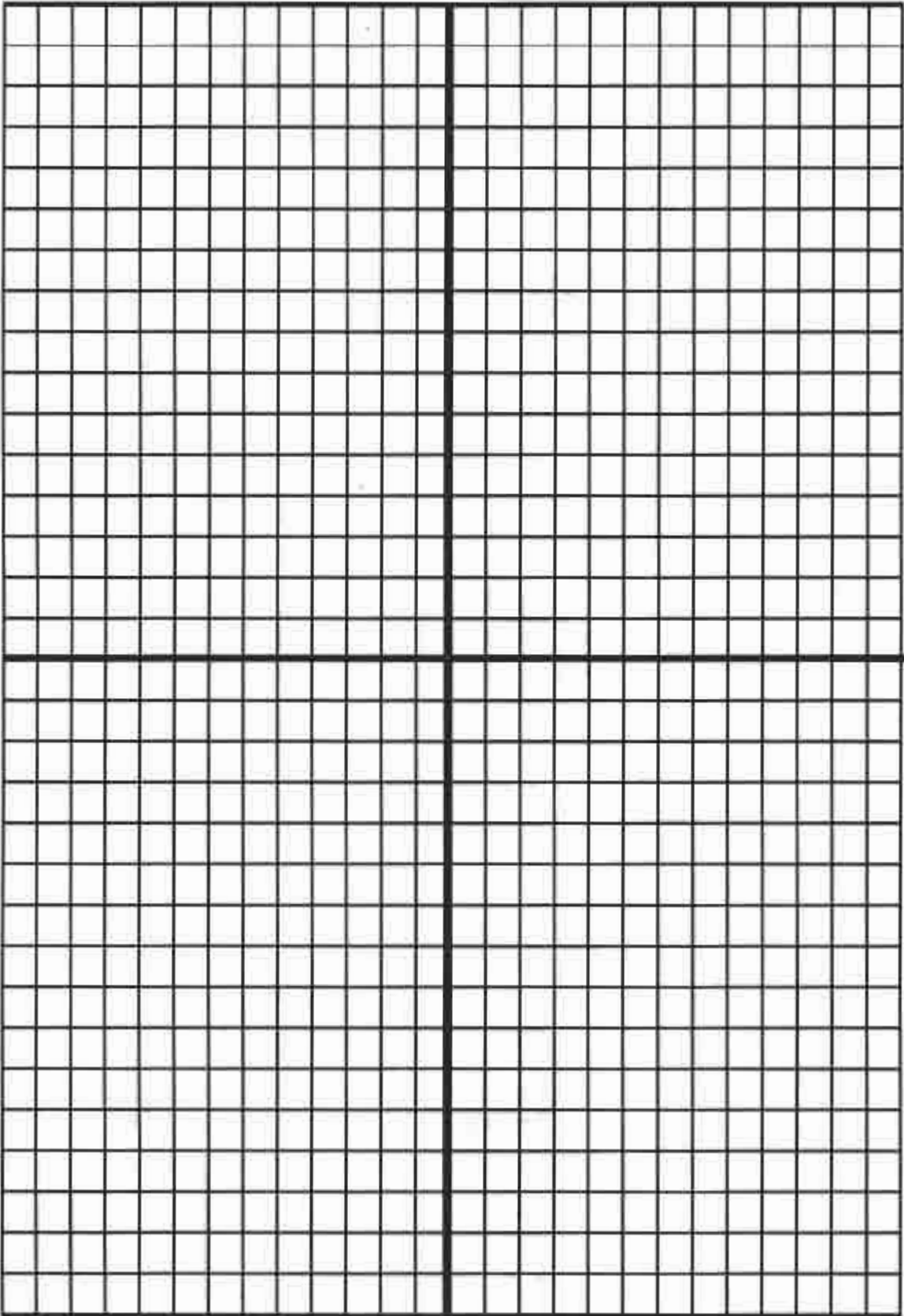


STRATIGRAPHIC SECTION



Plot the Artifacts

N



W

E

S

Museum Curator

Tools

- ▽ Help the Map Maker decide where to draw an object
- ▽ Clean off each object found
- ▽ Group similar objects and place them on the lid

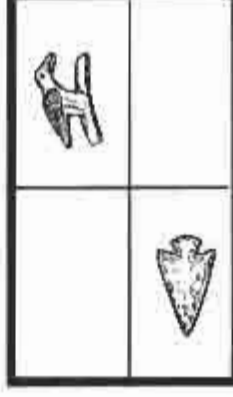


▽ Tray for arti-

Map Maker

Midden Map

- ▽ Make a map of the midden box
- ▽ Draw or trace each object on the map
- ▽ Label the object



Excavator

Tools

- ▽ Carefully remove soil layer by layer
- ▽ Tell Map Maker when you find an object



Recipe for Salt Dough:

2 cups flour

1 cup salt

1 teaspoon cream of tartar

2 tablespoons vegetable oil

1 teaspoon of food coloring

2 cups of water

In saucepan, mix all ingredients. Stir constantly over medium heat until dough leaves sides of pan. When dough is cooled in pan, it may be stored in refrigerator.

For earthen clays contact:

Columbus Clay Company

1080 Chambers Rd.

Columbus, OH 43212

(614) 488- 9600

www.columbusclay.com

Teaching Resources



Cahokia Mounds State Historic Site
Illinois Historic Preservation Agency
Site Manager
P.O. Box 681
Collinsville, Illinois 62334
(618) 346- 5160
<http://medicine.wustl.edu/~mckinney/cahokia/cahokia.html>

Flint Ridge State Memorial
Ohio Historical Society
7091 Brownsville Rd. SE
Glenford, Ohio 43739
(740) 787- 2476
1- 800- 283- 8707
www.ohiohistory.org/places/flint/

Fort Ancient State Memorial
Ohio Historical Society
6123 State Route 350
Oregonia, Ohio 45054
(513) 932- 4421
1- 800- 283- 8404
www.ohiohistory.org/places/ftancien/

Fort Hill State Memorial
Ohio Historical Society
13614 Fort Hill Rd.
Hillsboro, Ohio 45133
(937) 588- 3221
1- 800- 283- 8905
www.ohiohistory.org/places/fthill

Leo Petroglyphs
c/o Site Operations Manger
Ohio Historical Society
1982 Velma Avenue
Columbus, Ohio 43211
(614) 297- 2630
Fax: (614) 297- 2233
1- 800- 686- 1535
www.ohiohistory.org/places/leopetro/#infoal
Miamisburg Mounds

Ohio Historical Society
City of Miamisburg Parks Department
101 North First St.
Miamisburg, Ohio 45342
(937) 866- 4532
www.ohiohistory.org/places/miamisbg/

Mound Builders & Great Circle Earthworks
Ohio Historical Society
99 Cooper Avenue
Newark, Ohio 43055
(740) 344- 1919
1- 800- 600- 7178
www.ohiohistory.org/places/newarkearthworks/greatcircle.cfm#info

National Park Service
www.nps.gov

Newark, Octagon, or Wright Earthworks
Ohio Historical Society
99 Cooper Avenue
Newark, Ohio 43055
(740) 344- 1919
(740) 344- 1920
1- 800- 600- 7174
www.ohiohistory.org/places/newarkearthworks/index.cfm
www.ohiohistory.org/places/newarkearthworks/octagon.cfm
www.ohiohistory.org/places/newarkearthworks/wright.cfm

Ohio Historical Society
1982 Velma Avenue
Columbus, Ohio 43211
(614) 297- 2300
www.ohiohistory.org

Seip Mound
c/o Site Operations Manger
Ohio Historical Society
1982 Velma Avenue
Columbus, Ohio 43211
(614) 297- 2630
1- 800- 686- 1535
Fax: (614) 297- 2233
www.ohiohistory.org/places/seip/

Sun Watch Indian Village/Archeological Park
2301 West River Rd.
Dayton, OH 45418
(937) 268- 8199
www.sunwatch.org

Serpent Mound State Memorial
Ohio Historical Society
3850 State Route 73
Peebles, Ohio 45660
(937) 587- 2796
1- 800- 752- 2757
www.ohiohistory.org/places/serpent/#info

Teaching Guides:

A majority of the activities contained within *Expeditions into Ohio's Past* are based primarily on activities contained within the following teaching guides and are available to educators:

Intrigue of the Past: Fundamentals of Archeology, a Teacher's Guide for Fourth through Seventh Grades by Shelley J. Smith, Jeanne M. Moe, Kelley A Letts, and Daniel M. Patterson, U.S. Department of the Interior, Bureau of Land Management, is a publication of Project Archeology's Heritage Education Program. This program is designed to educate teachers and students in different methods targeting the protection of cultural resources. www.blm.gov/heritage/project_archaeology.htm

Investigating Artifacts: Making Masks, Creating Myths, Exploring Middens Teachers Guide. Grades K- 6 by Katherine Barnett, Lincoln Bergman, Gigi Dornfest, Linda Lipner, Cordyn Willard. Great Expeditions in Math and Science (GEMS). For more information and free catalog, please contact GEMS at (510) 642 7771.

Teaching Archaeology: A Sampler for Grades 3- 12. www.saa.org/pubEdu/sampler. Society for American Archaeology, 900 Second Street NE #12, Washington, DC 20002- 3557.

Suggested Reading



As a teacher, you may want to prepare for an upcoming visit to Hopewell Culture National Historical Park or for a visit by a ranger to your school.

If you are able to do so, visiting the park to familiarize yourself with the facility and the information may prove to be incredibly helpful. If you are unable to make it to Hopewell Culture, calling with any questions is always welcomed by park rangers. Also the park brochure and website are useful tools for research.

Visit www.nps.gov/hocu to look up activities, contact information, history and more! Call the park at (740)774- 1126 for questions.

Suggested Reading for Students:

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Suggested Reading for Teachers:

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Glossary



A

absolute location: the location of a point on the Earth's surface which can be expressed by a grid reference (e.g., latitude and longitude)

AD: represents years in the Christian Era Anno Domini

Adena: a prehistoric mound building culture found in southern Ohio and other parts of the eastern United States which flourished between 3,000 - 2,000 years ago

anthropology: the study of human beings in relation to distribution, origin, classification, and relationship of races, physical character, environmental and social relations, and culture

anthropologist: one who studies the subject of anthropology

Archaic Period: a time frame in North American prehistory spanning 7,000 years between 10,000 B.P. to 3000 B.P. after Paleo-Indian and before Woodland times. The 7,000 years is further defined as Early, Middle and Late Archaic

archeologist: (archaeologist) one who studies the subject archeology

archeology: scientific study of life and culture of past peoples through excavation and examination of the remains and the materials left behind

artifact: any object made by human hands

atlatl: a device used for throwing a spear that consists of rod or board with a projection (as a hook) at the back end

Atwater, Caleb: Atwater moved to Circleville, Ohio in 1815 and began documenting many of the earthworks in Ohio. He wrote *Description of the Antiquities Discovered in the State of Ohio and Other Western States* in 1820 that included the earliest known map of the Hopewell Mound Group

B

blade or bladelet: a long slender prismatic flake manufactured by indirect percussion or pressure from a prepared core. At least twice as long as it is wide

burial: a place for a deceased body in the earth or a tomb, usually in a ceremonial manner

C

ceremony: an established system of rites connected with an occasion as in religion or ritual

chronology: an arrangement of events in order of occurrence

constant: something that is unchanging

copper: soft, easily shaped reddish-brown metal. The Hopewell obtained copper ore from the Lake Superior region

culture: behavior patterns, arts, beliefs,

products of human work and thought typical of a group or population

cultivate: to grow or tend

curator: one who manages or oversees a museum collection or library

D

Davis, Dr. Edwin: (1811 - 1888), Chillicothe physician. Co- author of *Ancient Monuments of the Mississippi Valley*, detailing the first archeological study of the prehistoric earthworks of the Mississippi Valley

decompose:
to cause to rot; to decay

E

earthen wall: an enclosure made from soil or stone. Walls can vary in size according to height, width, and length. Walls are formed into shapes either as geometric ones, such as circles or squares, or as free- formed, such as the rounded- cornered square at the Mound City

earthwork: a type of archeological site that is constructed by placing or displacing soil or stone. Earthworks can be earthen mounds, earthen walls, or ditches. Many times earthworks are formed into various shapes, such as the circle at the Hopeton earthworks

effigy: an image or representation of a person or animal

ethnography: a branch of anthropology that deals with the scientific description of specific human cultures

excavate: to uncover or expose by digging

experimental archeology: the study of past behavioral processes through experimental reconstruction under carefully controlled scientific conditions

F

fire cracked rock (FCR): a type of stone artifact that was heated in a fire. The heat of the fire makes the rock break into smaller sections which are called fire cracked rocks. These artifacts are usually associated with cooking processes

flint: hard rock that breaks with a sharp cutting edge

Fort Ancient Culture: a group of people that shared similar characteristics between AD 1000- 1650. People associated with this culture lived in villages, grew corn and other plants, and used the bow and arrow. Archeological evidence also indicate that people of the Fort Ancient culture constructed the Serpent Mound

G

goosefoot: (*Chenopodium spp.*): a native plant that is now extinct, although weedy forms survive today; one of four cultivated starchy seeds used by Hopewell. The seeds mature in the fall and contain more protein and fiber and less fat than corn

H

habitation site: a habitation site is a place where people have lived. Prehistoric habitation sites may be marked by postholes, cooking pits, middens, or

broken pottery or artifacts

hamlet: a small village

Hopewell: name given to a culture with people who shared common beliefs and lifestyles. They built mounds and earthworks throughout southern Ohio. Their influence reached throughout eastern continental North America between 2200- 1500 years ago

Hopewell, Mordecai Cloud: a local resident of Chillicothe in the late 1800's who also owned a farm outside of town. This farm land contained a portion of a large archeological site that was excavated in the 1890's. This site is now named the Hopewell site

hypothesis: explanation for an observation, phenomenon, or scientific problem that can be tested by further investigation

I

inference: The act or process of deriving logical conclusions from previously known information that is assumed to be true

inorganic: not composed of organic, living matter

K

knotweed: (*Polygonum erectum*): A fall maturing plant, knotweed was cultivated for its starchy seed. The seeds also contain more protein than corn

M

marsh elder or sumpweed: (*Iva annua* var. *Macrocarpa*): extinct; one of two

plants cultivated by the Hopewell for its oily seeds, and harvested in the fall

may grass: *Phalaris carolinana*: valued for starchy seeds and cultivated, but not domesticated. This plant matured in the spring, and does not grow in the wild north of southern Kentucky, however was able to grow under the care of the Ohio Hopewell

mica: a group of minerals that crystallizes in thin, flexible, translucent, layers

midden: archeological term for trash pits or garbage dumps

Mills, William C.: (1860- 1928) archeologist who excavated numerous prehistoric sites in Ohio including the Seip Earthworks, Adena Mound, and most notably, the Mound City Group in the early 1920's. Mills' work uncovered most of the artifacts in the Hopewell Culture National Historical Park museum

Mississippian Culture: this time period from about AD 900 to 1600 characterizes the lifestyle of people living along the Mississippi River and in the Midwest and Southeast. Oftentimes people lived in towns and built important structures atop flat- topped mounds. One example of a Mississippian town is Cahokia, a large archeological site near St. Louis

Moorehead, Warren K.: (1866- 1939) early archeologist who performed excavations at Hopewell Mound Group and Seip Earthworks in the 1890's.

mound: a heap or bank of earth, usually over ceremonial structure or burial

O

observation: an act of recognizing and noting a fact or occurrence often involving measurement with instruments

obsidian: a hard, usually dark colored or black volcanic glass used to make sharp stone tools such as knives

organic: anything made from substances that once lived, such as wood, leather and bone

P

pipe: a tube with a small bowl at one end for smoking plant substances

pipestone: hard claylike stone used by prehistoric peoples to make pipes

pottery: the art or craft of using clay to make bowls or pots

prehistoric: period before recorded history

projectile point: a general term for arrow, spear or dart- points. Characteristics include a symmetrical point, thin cross- section, and some method of attachment to the projectile shaft

provenience: a source or origin of something

R

relative location: the location of a place in relation to other places (e.g., north-west, downstream)

ritual: the performance of a ceremonial act

S

Scioto River: a river that flows through

Southern Ohio and into the Ohio River

shaman: a person who acts as a medium between the visible world and an invisible spirit world and who practices religion for purposes of healing, divination, and control over natural events

shard: a piece of broken pottery

shells: hard coverings of some aquatic animals used by Native Americans for beads, tools, and in burials

silver: a white metallic element that is ductile, very malleable, and capable of a high degree of polish

stratigraphy: the arrangement of rocks or materials in layers. As layers are deposited, the oldest is usually on the bottom and the youngest on top

Squier, Ephraim: editor of the local Chillicothe newspaper, *Scioto Gazette*, and surveyor of many earthworks in Ohio. Squier also excavated some mounds including a few at Mound City Group. Co- author of *Ancient Monuments of the Mississippi Valley* published in 1848

T

temper: to harden, strengthen, or toughen by blending, kneading, admixing or applying heat

textile: fabric that is woven or knitted

trowel: a flat- bladed hand tool used for leveling, spreading, or shaping substances such as sand or dirt

V

variable: something that varies or is prone to variation

W

Woodland Period: archeologists have designated the period of time between 1000 BC - AD 1000 in the Midwest as the Woodland Period. Characteristics of this time period are the widespread use of pottery, the cultivation of plants, and the building of earthworks. The middle part of this time period (200 BC - AD 500) includes the Hopewell culture

My Hopewell Predictions



Name: _____

1. The Hopewell were in this area how many years ago?
2. What did the Hopewell eat?
3. What are the Hopewell people well known for constructing?
4. What would have the Hopewell have done in their spare time?
5. How did the Hopewell build mounds?
6. Someone who studies the past, such as artifacts, is called an _____.
7. Name two items that the Hopewell obtained through travel or trading?
8. **True or False:** According to archeologists, the Hopewell were among the first people in North America to grow corn.
9. **True or False:** The Hopewell had horses.
10. **True or False:** The Hopewell constructed Serpent Mound, in Adams County.
11. **True or False:** Ohio is the only state that has mounds and earthworks.
12. **True or False:** The Hopewell were the only Mound Builders ever to exist.

My Hopewell Review



Name: _____

1. What types of tools did the Hopewell use to build earthworks?
2. Now that you have learned about the Hopewell culture, how can you help protect earthworks and artifacts?
3. How many years ago did the Hopewell live in this area?
4. Why is Hopewell Culture National Historical Park being protected and preserved?
5. Draw a line from the source of the materials to its name:

Obsidian	Atlantic Ocean
Pipestone	Ohio
Mica	Gulf of Mexico
Copper	Blue Ridge Mountains, North Carolina
Shells	Yellowstone NP, Wyoming
Shark Teeth	Lake Superior
6. Why did the Hopewell live along rivers?
7. Roughly 2,000 years from now archeologists may be studying our culture. What artifacts can we leave for them to study in order for them to learn more about our way of life?
8. What happened to the Hopewell culture?
9. What is inside the mounds at Hopewell Culture National Historical Park?
10. List some differences and similarities between your way of life and that of that Hopewell.

Similarities:

Differences:

Evaluation Form



Teacher Copy

Hopewell Culture National Historical Park
Expeditions into Ohio's Past
An Integrated Curriculum for Grades 3-5

Please make copies of this form as needed. Use the back for additional space. Thank you for your time! Your feedback will help make this a more valuable teaching tool. Please return to Hopewell Culture NHP, Attn: Chief of Interpretation, 16062 St. Rt. 104, Chillicothe, OH 45601.

School: _____ Name: _____

Grade level: _____ Sections used: _____

Date: _____

Please circle one response for each statement.
5=Strongly agree 3= Somewhat agree 1= Strongly disagree

- | | | | | | |
|--|---|---|---|---|---|
| ° Expeditions into Ohio's Past was adaptable and easy to use. | 5 | 4 | 3 | 2 | 1 |
| ° The objectives were relevant to your school's curriculum and educational requirements. | 5 | 4 | 3 | 2 | 1 |
| ° The activities address a variety of student ability levels and learning styles. | 5 | 4 | 3 | 2 | 1 |
| ° The students made a connection between the study of prehistoric cultures and its relevance to their lives. | 5 | 4 | 3 | 2 | 1 |

1. How did you hear about Hopewell Culture National Historical Park?

2. Were you able to schedule an onsite or offsite visit?

3. What suggestions do you have to improve this guide?

Evaluation Form



Student Copy

Hopewell Culture National Historical Park
Expeditions into Ohio's Past
An Integrated Curriculum for Grades 3-5

Teachers: Please make copies of this form as needed.

Students: Your feedback is important and helpful. Use the back for additional space.

School: _____ Sections used: _____

Grade level: _____

Date: _____

Name: _____

1. Which activities did you like the most? Why?

2. Which activities did you like least? Why?

3. Were you challenged by the activities and concepts covered?

4. What did you learn that was the most important to you?

5. How will you be able to use what you have learned in the future?

6. What is the value of Hopewell Culture National Historical Park?

7. What would you change to improve this curriculum guide?